

95 00626

v. 2

R10114.00

FINAL ENVIRONMENTAL IMPACT REPORT

SCH #90020776

MOUNTAIN HOUSE

NEW TOWN GENERAL PLAN AMENDMENT

INSTITUTE OF GOVERNMENTAL
STUDIES LIBRARY

AUG 2 1995

UNIVERSITY OF CALIFORNIA

Volume II of III
Chapters 5-10

March 1992

FINAL ENVIRONMENTAL IMPACT REPORT

SCH # 90020776

MOUNTAIN HOUSE NEW TOWN GENERAL PLAN AMENDMENT

Volume II of III
Chapters 5-10


March 1992

Prepared by

BASELINE Environmental Consulting
5900 Hollis Street, Suite D
Emeryville, CA 94608

with

Archaeological/Historical Consultants
Donald Ballanti
CH2M Hill
DKS Associates
Economic and Planning Systems
Ellman, Burke, Hoffman & Johnson
Henderson & Associates
Illingworth & Rodkin, Inc.
Mills Associates
Resource Management Associates
Ignacio San Martin



Digitized by the Internet Archive
in 2025 with funding from
State of California and California State Library

<https://archive.org/details/C124913579>

TABLE OF CONTENTS

VOLUME I	<u>page</u>
1.0 INTRODUCTION	
1.1 Purpose of the Draft Environmental Impact Report	1-1
1.2 Contents of the Draft Environmental Impact Report	1-1
1.3 Environmental Impact Report Review Process	1-2
1.4 Detail of Environmental Review	1-4
2.0 SUMMARY	
2.1 Project Description	2-1
2.2 Summary of Project Impacts and Mitigation Measures	2-2
2.3 Alternatives to the Project	2-3
3.0 PROJECT DESCRIPTION	
3.1 Project Location	3-1
3.2 Existing Site	3-1
3.3 Project Land Uses	3-9
3.4 Project Phasing	3-12
3.5 Project Population and Employment	3-17
3.6 Williamson Act Contract Cancellation Requirements	3-18
3.7 Sponsor Objectives	3-18
3.8 Required Approvals	3-21
3.9 Responsible Agencies	3-25
4.0 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES	
4.1 Land Use and Agricultural Issues	4.1-1
4.2 Zoning and General Plan Policies	4.2-1
4.3 Public Services	4.3-1
4.3.1 Parks and Recreation	4.3-1
4.3.2 Schools	4.3-8
4.3.3 Fire Protection Service	4.3-12
4.3.4 Police Protection Service	4.3-16
4.3.5 Solid and Hazardous Waste	4.3-19
4.3.6 Libraries	4.3-23
4.4 Public Utilities	4.4-1
4.4.1 Water	4.4-1
4.4.2 Wastewater	4.4-22
4.4.3 Storm Drainage	4.4-38
4.4.4 Gas and Electricity	4.4-48
4.4.5 Telephone	4.4-53
4.5 Cultural Resources	4.5-1
4.6 Geology, Soils, and Seismicity	4.6-1
4.7 Hydrology and Water Quality	4.7-1
4.8 Visual Quality	4.8-1
4.9 Fiscal Impacts	4.9-1
4.10 Financial Impacts	4.10-1
4.11 Population, Housing, and Employment	4.11-1

4.12	Public Health and Safety	4.12-1
4.13	Biological Resources	4.13-1
4.14	Transportation	4.14-1
4.15	Air Quality	4.15-1
4.16	Noise	4.16-1

VOLUME II

5.0 ALTERNATIVES

5.1	Introduction	5-1
5.2	No Project Alternative	5-5
5.3	Tracy Alternative Site	5-23
5.4	North Livermore Alternative Site	5-35
5.5	Redesigned Project	5-47
5.6	Reduced-Scale Project	5-75

6.0 ADDITIONAL CEQA CONSIDERATIONS

6.1	Cumulative Impacts	6-1
6.2	Growth-Inducing Impacts	6-18
6.3	Relationship of Short-Term Uses of the Environment versus Long-Term Productivity	6-20
6.4	Significant Unavoidable Adverse Impacts	6-21
6.5	Significant Irreversible Environmental Changes	6-21

7.0 MITIGATION MONITORING PROGRAM 7-1

8.0 REFERENCES AND PERSONS CONSULTED 8-1

9.0 PERSONS INVOLVED IN REPORT PREPARATION

9.1	Report Personnel	9-1
-----	------------------	-----

10.0 APPENDICES

10.1	Notice of Preparation and Initial Study
10.2	Notice of Preparation Mailing List
10.3	Letters Sent in Response to Notice of Preparation
10.4	Public Meeting Notices
10.5	Summary of Issues Discussed at Public Scoping Meetings
10.6	Byron-Bethany Irrigation District (BBID) Water Rights and Water District Annexation Procedures
10.7	Water Quality Background Information
10.8	Wastewater Reclamation and Water Conservation Opportunities
10.9	Treatment Sludge and Wastewater Background Information
10.10	Storm Detention Basin Examples and Storm Runoff Water Quality Data
10.11	Seismicity Information
10.12	Hydraulic and Water Quality Report
10.13	Jobs/Housing Model Tables
10.14	Regulatory Information Regarding Hazardous Materials

10.15	Data on Electromagnetic Fields	
10.16	Biotic Information	
10.17	Transportation Data	
10.18	Fundamentals of Environmental Noise and Results of Noise Monitoring Survey	
10.19	Fiscal Data	
10.20	Financial Data	

VOLUME III

Comment Number

INTRODUCTION

COMMENT LETTERS

Federal Agencies	A1 - A9
State Agencies	B1 - B17
Local Agencies and District Offices of State Agencies	C1 - C350
Members of the Public, Private Companies, and Citizens Groups	D1 - D435
Draft EIR Public Hearing/Planning Commission Minutes	E1 - E58

RESPONSES TO COMMENTS

VOLUME II

5.3-1	Alternative Site Adjoining Tracy	5-24
5.3-2	Views of Tracy Alternative Site	5-31
5.4-1	North Livermore Alternative Site	5-37
5.4-2	View of North Livermore Alternative Site	5-44
5.5-1	Redesigned Project	5-49
5.5-2	Polycentric Development Pattern	5-51
5.5-3	Phasing for Redesigned Project	5-58
5.5-4	Photomontage of Redesigned Project Alternative: I-205	5-67
5.5-5	Photomontage of Redesigned Project Alternative: Patterson Pass Road	5-69
5.6-1	Reduced Scale Project	5-77
5.6-2	Photomontage of Reduced-Scale Project Alternative: I-205	5-89
5.6-3	Photomontage of Reduced-Scale Project Alternative: Patterson Pass Road	5-91
6.1	Cumulative Projects Locations	6-4
6.2	Cumulative Analysis Area for Noise Impacts	6-20

LIST OF TABLES

	<u>page</u>
VOLUME I	
2.1 Summary of Impacts and Mitigation Measures	2-3
3.1 Assessor Parcel Numbers	3-7
3.2 Proposed Land Uses	3-9
3.3 Residential Densities and Acreages	3-11
3.4 Land Uses for Tentative Development Phases I through IV	3-14
3.5 Residential Population by Development Phase	3-16
3.6 Employment by Development Phase	3-17
3.7 Required Approvals	3-20
4.1-1 Comparison of On-Site Crops with 1989 Crop Acreages for San Joaquin County	4.1-2
4.1-2 Chemical Applications on the Project Site and Adjoining Lands	4.1-6
4.1-3 Farmland Categories - Mountain House New Community	4.1-9
4.1-4 Summary of Agricultural Land Results	4.1-13
4.2-1 Project's Relationship to Policies of San Joaquin County General Plan 2010 (Draft)	4.2-7
4.2-2 Project's Relationship to Policies of San Joaquin County Land Use/Circulation Element of The 1995 General Plan	4.2-16
4.3-1 Proposed Recreational Facilities	4.3-4
4.3-2 School-Age Children Generated by the Project	4.3-9
4.3-3 Recommended Phasing for High School Construction	4.3-11
4.3-4 Solid Waste Generation	4.3-17
4.3-5 Library Space Demand by the Project	4.3-18
4.4-1 Water Demand Calculations for Project Site, by Phases	4.4-10
4.4-2 Wastewater Reclamation Opportunities	4.4-12
4.4-3 Treated Water Storage Requirements	4.4-14
4.4-4 Estimated Water Treatment Sludge Quantities	4.4-15
4.6-1 Major Faults Potentially Affecting the Project Site	4.6-7
4.9-1 Service Providers Proposed by Applicant for Mountain House New Town	4.9-2
4.9-2 County Service Framework	4.9-3
4.9-3 San Joaquin County Revenues	4.9-7
4.9-4 1990 Taxable Retail Sales, by City	4.9-8
4.9-5 General Purpose Net County Costs (NCC)	4.9-10
4.9-6 City of Tracy Program Costs Applicable to Mountain House	4.9-13
4.9-7 Summary of Revenues and Expenditures for Proposed Project	4.9-15
4.9-8 Summary of Revenues and Expenditures for Proposed Project Assuming 40 Percent Buildout of Commercial and Industrial Land Uses	4.9-17
4.10-1 Capital Improvement Funding, Mountain House New Town	4.10-3
4.10-2 Capital Cost Allocation Factors by Land Use	4.10-7
4.10-3 Capital Cost Allocations by Land Use	4.10-8
4.10-4 Capital Cost Burden by Land Use	4.10-9

	<u>page</u>
4.11-1	Existing Jobs-Housing Balance-1990 4.11-2
4.11-2	Land Use Plan Assuming Market Constraints 4.11-8
4.11-3	Jobs and Employed Residence at Buildout Assuming Market Constrained Development 4.11-10
4.11-4	Proposed Home Prices 4.11-11
4.11-5	Housing Prices by Income Category 4.11-11
4.11-6	Net Housing Deficit by Income Category 4.11-12
4.11-7	Housing Affordability for Low Income Residents of San Joaquin County 4.11-13
4.11-8	Impact of the Proposed Project on City of Tracy in Year 2010 4.11-14
4.12-1	Regulatory Limits on Field Strengths of Transmission Line Rights-of-Way 4.12-8
4.13-1	On-Site Crop Acreage 4.13-1
4.14-1	Existing Freeway Levels of Service, 1990 PM Peak Hour 4.14-9
4.14-2	Existing Levels of Service for Rural Roads in the Project Area 4.14-10
4.14-3	Project Trip Generation Rates 4.14-17
4.14-4	Mountain House Trip End Generation (1995-2010) 4.14-19
4.14-5	Phase I (1995) Mountain House Trip End Generation 4.14-20
4.14-6	Phase II (2000) Mountain House Trip End Generation 4.14-20
4.14-7	Phase III (2005) Mountain House Trip End Generation 4.14-21
4.14-8	Phase IV (2010) Mountain House Trip End Generation 4.14-21
4.14-9	Projected Distribution of Total Daily Trips (1995-2010) 4.14-22
4.14-10	Projected Distribution of Daily Work Trips (1995-2010) 4.14-22
4.14-11	Internal Work-Related Traffic Characteristics 4.14-23
4.14-12A	Total Daily Traffic Volume Changes on Freeways in Project Vicinity 4.14-32
4.14-12B	Total Daily Traffic Volume Increases on Freeways in Project Vicinity 4.14-33
4.14-13A	Summary of Projected Freeway Volumes and Levels of Service, Proposed Project Scenario 4.14-35
4.14-13B	Summary of Projected Freeway Volumes and Levels of Service, Market-Constraint Scenario 4.14-37
4.14-13C	Summary of Projected Freeway Volumes and Levels of Service 4.14-39
4.14-14A	Traffic Volume Increases on Key County Roads, Proposed Project Scenario 4.14-50
4.14-14B	Traffic Volume Increases on Key County Roads, Market-Constraint Scenario 4.14-51
4.14-15A	Traffic Volume Increases on County Roads Adjacent to Site, Proposed Project Scenario 4.14-55
4.14-15B	Traffic Volume Increases on County Roads Adjacent to Site, Market-Constraint Scenario 4.14-56
4.14-16	Recommended Improvements and Cost Estimates for Roadways near Project Site 4.14-57
4.15-1	Ambient Air Quality Standards 4.15-3
4.15-2	Air Quality Data for Project Area 4.15-7
4.15-3	Project Emissions under Proposed Project Scenario 4.15-9
4.15-4	Project Emissions under Market-Constraint Scenario 4.15-10

List of Tables - *continued*

	<u>page</u>
4.15-5	Worst Case 1-Hour Carbon Monoxide Concentrations 4.15-13
4.15-6	Worst Case 8-Hour Carbon Monoxide Concentrations 4.15-14
4.16-1	Existing Average Noise Levels at Key Locations within and near the Project Site 4.16-1

VOLUME II

5.1-1	Project Alternatives' Consistency with Project Objectives 5-2
5.1-2	Summary Table of Impacts of Alternatives as Related to the Project 5-6
5.3-1	Summary of Revenues and Expenditures, Tracy Annexation 5-32
5.3-2	2010 Regional Air Quality Impacts of Project and Alternatives 5-34
5.3-3	Comparison Year 2010 Carbon Monoxide Concentrations with Alternatives 5-36
5.5-1	Redesigned Project as Compared with Proposed Project 5-54
5.5-2	Residential Population for Redesigned Project Alternative versus Proposed Project 5-55
5.5-3	Employment for Redesigned Project Alternative Compared with Proposed Project 5-59
5.5-4	Summary of Revenues and Expenditures 5-71
5.6-1	Reduced-Scale Project as Compared with Proposed Project 5-79
5.6-2	Residential Population for the Reduced-Scale Alternative 5-83
5.6-3	Employment for Reduced-Scale Alternative 5-84
5.6-4	Summary of Revenues and Expenditures, Reduced-Scale Alternative 5-92
6.1-1	Cumulative Multi-County Projects 6-3
6.1-2	San Joaquin Valley Air Basin Population and Employment Projections 6-16
6.1-3	San Joaquin Valley Air Basin Project Regional Emissions 6-17
7-1	Summary Table for Mitigation Monitoring Program 7-2

5.0 ALTERNATIVES

5.0 ALTERNATIVES

5.1 INTRODUCTION

The State CEQA Guidelines require that a range of reasonable alternatives to the proposed project, which could feasibly attain the objectives of the project, be described and evaluated in a comparative fashion. The CEQA Guidelines also require that the environmentally-superior alternative (including consideration of the proposed project) be identified. If the alternative with the least environmental impact is the No Project Alternative, then one of the other remaining alternatives is to be designated as the environmentally-superior alternative. In accordance with these guidelines, alternatives are discussed below, including a No Project Alternative that would maintain the existing conditions on the project site. Based on the analysis that follows, the Reduced-Scale Project Alternative would be the environmentally superior alternative in addition to the No Project Alternative.

SELECTION OF ALTERNATIVES

Five alternatives have been selected for evaluation and comparison with the proposed project. With the exception of the No Project Alternative, the alternatives were selected based upon their apparent ability to reduce or eliminate significant adverse impacts identified for the proposed project, while still meeting most, if not all, project objectives (Table 5.1-1). The five alternatives discussed in this chapter include the No Project Alternative, two alternative sites, a Redesigned-Project Alternative, and a Reduced-Scale Alternative.

The rationale for selecting the two alternative sites was based on the best information available at the time the DEIR was initiated, and on County planning staff's opinion regarding which sites were more likely to be environmentally superior to the proposed project site. The two alternative sites were chosen because they presented greater opportunities to reduce impacts identified at the Mountain House site than other areas considered. The Tracy alternative is not so much a site specific alternative, but rather an opportunity to examine which impacts would be minimized if the project were located next to an existing city with its associated services and infrastructure. The North Livermore site was chosen in recognition of the fact that a large percent of the market demand for a project like Mountain House is generated in the Bay Area, especially the job generating Hacienda and Bishop Ranch business parks.

Sections 5.2 through 5.6 evaluate the impact of the five alternatives to the proposed project. The alternatives are evaluated in comparison to the proposed project and in terms of the alternative's ability to meet project objectives as developed by the project sponsor. The ability of the alternatives to meet project objectives is summarized in Table 5.1-1. The project objectives are described in Section 3.7 of this DEIR.

No Project Alternative

Construction of the proposed project would not occur. Existing on-site land uses would remain unchanged and the site would remain in predominantly agricultural use. **According to the applicant, this alternative would not achieve any of the objectives of the project.**

TABLE 5.1-1

PROJECT ALTERNATIVES' CONSISTENCY WITH PROJECT OBJECTIVES

Project Objectives	ALTERNATIVES				
	No Project	Tracy Alternative Site	North Livermore Alternative Site	Reduced Scale Project	Redesigned Project
Accommodate a portion of the development pressure forecast for the region in a well-organized and orderly development pattern over a 17-year buildout period	*	✓	✓	✓	✓
Create opportunities for Bay Area employers to relocate and expand	*	✓	✓	✓	✓
Provide a balance of jobs and housing	*	✓	✓	✓	✓
Provide a complete transportation system, including transit facilities	*	✓	✓	✓	✓
Provide a New Town with its own services, parks, schools, and shopping facilities	*		✓	✓	✓
Have an identity tied to Old River, Mountain House Creek, a pedestrian-oriented town center, and tree-lined street patterns characteristic of Valley communities	*	NA	NA	✓	✓
Minimize impacts on agricultural land by locating on land less valuable for agriculture due to the following: presence of less important soils; adverse wind, erosion, and water costs; and sloping terrain	**	*	✓	*	*
Minimize impacts on agricultural land by developing in the far western portion of the County and at densities that would preserve more valuable agricultural areas	**	*	*	*	*

Table 5.5-1 - *continued*

Project Objectives	ALTERNATIVES				
	No Project	Tracy Alternative Site	North Livermore Alternative Site	Reduced Scale Project	Redesigned Project
Provide business parks that would accommodate quality employers and that would be located where adequate roads and services are available, outside of floodplains, and with adequate acreage to meet business park needs;	*	✓	✓	✓	✓
Preserve, restore, and/or relocate all wetlands and wildlife habitat within the project boundaries at an enhanced level on not less than a one-to-one basis. To protect 100-year floodplain areas near Old River from the 100-year storm by raising levees above the 100-year flood level or by fill	*	NA	NA	✓	✓
Provide a modern sewage treatment system, with all effluent and storm drainage discharges meeting current high water quality standards	*	✓	✓	✓	✓
Create a Community Services District to provide water, sewer, drainage, roads, parks, fire protection, police services, and other services at no cost to the County.	*	✓	✓	✓	✓

Notes: * = Alternative does not comply with objective.
 NA = Not applicable.
 ✓ = Alternative complies with objective.
 ** = Project and alternative do not comply with objective.

Tracy Alternative Site

The City of Tracy site was chosen at the request of the City to provide a forum for examining some of the current new community general plan policies. The specific concerns examined in this alternative are economic and locational. Would there be an economic advantage to the City of Tracy if all of the growth (especially job growth) were located adjacent to (and annexed to) the City, as opposed to the Mountain House site? Also would there be economic and land use benefits to locating the development adjacent to an existing infrastructure system? For these reasons, specific locational boundaries have not been identified on a map for this alternative site. It was more important to describe the alternative in terms of numbers of jobs, population, and service demands.

This alternative would be very similar to the proposed project except that the entire project would be relocated to the western edge of the City of Tracy. Major access would be available from I-205 and I-580. Changes to the land use plan would include removal of the 60-acre marina and replacement of the proposed project's 43-acre town center with 20 acres of neighborhood commercial uses and 23 acres of freeway commercial uses. **According to the applicant, this alternative would have many of the same impacts as the proposed project, may not be feasible due to water supply problems, and would create problems for developing an integrated plan due to multiple ownerships.**

North Livermore Alternative Site

The North Livermore site was chosen because of its location, lack of site constraints, and available information. This site appears to be more advantageously located to supply proximate housing to the Tri-Valley job market than the Mountain House site and would, thus, mitigate some of the identified traffic impacts. The North Livermore site also has relatively few known site constraints, and its agricultural value as grazing land is less than that of Mountain House site.

This alternative would be located within a portion of the North Livermore Planning Area, located north of the City of Livermore in Alameda County. The project acreage and land use categories would be the same as for the proposed project except for the removal of the 60-acre marina, which would be replaced with 60 acres of regional parkland. Major access would be available from I-580. **According to the applicant, the feasibility of this alternative is questionable due to the site's location outside San Joaquin County. The decision whether or not to develop this site would be in the hands of Alameda County.**

Redesigned-Project Alternative

This alternative includes a major redesign of the project for an ultimate population of about 34,000, as compared to the proposed project's population of 43,636 persons. A major difference between the proposed project and this alternative is the village-centered concept, whereby development would be concentrated around four villages. This development form would promote the use of public transit as well as pedestrian and bicycle use. This alternative would maintain 232 acres in agricultural use and include 976 acres of

regional parkland. The total acreage for residential, commercial, and industrial use would be slightly less under this alternative. **According to the applicant, this alternative would not be feasible because the proposed housing mix would not be marketable given current conditions and the large amount of on-site open space would be economically infeasible. Other reasons that the applicant has stated regarding rejection of this alternative can be found in the applicant's Comment Nos. D322 through D335 in the Final EIR.**

Reduced-Scale Project Alternative

This alternative includes a significant reduction in the overall scale of the project, and would occur within that portion of the project site bounded by Byron Road in the north and Grant Line Road on the south. Thus, the total area for development would be 2,357 acres, leaving 2,310 acres in agricultural use. Total residential and commercial development would be about one-half that of the proposed project. Industrial acreage of this alternative would be about 30 percent of that planned for the proposed project.

According to the applicant, this alternative would not be feasible because of an increased chance of operating at a General Fund deficit. In addition, a higher financial burden on developable properties could occur in comparison to the proposed project. The applicant has also stated that a reduction in size may hamper the project's ability to be "self-contained" and diverse. Other reasons for rejection of this alternative by the applicant can be found in Comment Nos. D336 through D349 of the Final EIR.

A summary of impacts associated with the five alternatives is presented in Table 5.1-2. This table discusses impacts of the proposed project without incorporation of any mitigation measures. Many of the proposed project's impacts shown in Table 5.1-2 could be mitigated as described in Chapter 4 of the DEIR.

5.2 NO PROJECT ALTERNATIVE

Construction of the proposed project would not occur under the No Project Alternative. Existing land uses would remain on-site and agricultural operations would remain the predominant land use. The existing General Plan designation for Agriculture would remain unchanged.

ENVIRONMENTAL IMPACTS

Land Use, Agricultural, and Planning Issues

Removal of prime agricultural lands would not occur. Williamson Act contract cancellations would not be needed. However, Notices of Nonrenewal have already been filed which means that those acreage would be taken out of Williamson Act contract by 1997 and 1998. The potential for urban land use conflicts with agricultural operations would be eliminated, thus protecting both on-site and off-site agricultural operations. Land use conflicts related to noise and odors would not occur. Rezoning and amendments to the County's General Plan would not be needed. Conflicts with numerous policies of the General Plan would not occur.

Public Services

Parks and Recreation

A deficit of regional parkland would continue in San Joaquin County, with or without the project. However, the amount of regional parkland deficit would be about 360 acres less if the project were not implemented.

5.2 NO PROJECT ALTERNATIVE

Increased demands on local, State, and regional park facilities would not occur under the No Project Alternative.

Schools

Temporary impacts on local schools (particularly in the early phases of project), would not occur. A total of 12 new elementary schools, two high schools, and additional school buses would not be needed.

TABLE 5.1-2

**SUMMARY OF TABLE OF IMPACTS OF ALTERNATIVES
AS RELATED TO THE PROJECT**

ALTERNATIVE	LAND USE, AGRICULTURAL, AND PLANNING ISSUES		
	Inconsistency with Goals or Policies of Relevant Plans	Removal of Agricultural Land	Cancellation of Williamson Act Contract Lands
Proposed Project	Would not meet some policies regarding new communities in the County's Draft General Plan and policies of existing General Plan.	Approximately 3,600 acres of Prime Farmland would be removed from production.	Development would result in the cancellation of contracts, representing 2,919.5 acres.
No Project	No impact.	No impact.	No impact.
Redesigned Project	Would be consistent with more of the policies regarding new communities.	A total of 232 fewer acres would be removed from agricultural production.	Impacts would be the same as the proposed project, except for the 232 acres to remain in agricultural use. Some of the open space may also remain under Williamson Act contract.
Reduced-Scale Alternative	Would meet more of the policies regarding new communities.	A total of 1,424 acres would be removed from agricultural production, representing approximately 50 percent of the prime soil on the site. This alternative includes a significantly greater retention of agricultural lands.	All of the area north of Byron Road under Williamson Act contract would not require cancellation; those contracts could expire automatically in 8-10 years or remain under contract. The parcel south of Grant Line Road could remain in contract under this alternative.
Tracy Alternative Site	Would meet slightly more policies due to proximity to existing urban area and fewer impacts on agricultural lands.	An equal amount of prime agricultural land would be removed for development purposes.	Less acreage of Williamson Act contracts would need to be canceled.
N. Livermore Alternative Site	Would require amendments to existing plans of City of Livermore and/or Alameda County. Could conflict with existing policies.	Only a small portion of this site is designated prime land. Remaining acreage is primarily designated for grazing. Conversion of agricultural land at this site is less significant.	Fewer Williamson Act contracts would require cancellation. Lands under contract in the Los Positas Valley are currently in the 10 year contract expiration process.

Table 5.1-2 - continued

ALTERNATIVE	PUBLIC SERVICES			
	Potential to Delay Response Time by Emergency Personnel or To Create an Inherently Hazardous Situation	Difficulty in Provision of Adequate School Services	Difficulty in Provision of Adequate Recreation Services	Difficulty in Provision of Adequate Solid and Hazardous Waste Services
Proposed Project	Potential for inadequate emergency service and firefighting equipment.	No significant impacts.	Insufficient regional park acreage.	Inadequate provision for reduction of waste by recycling. Would reduce landfill capacity.
No Project	No impact.	No impact.	No impact.	No impact.
Redesigned Project	Same as project.	Same as project.	Would require additional 39 acres of neighborhood parks.	Same as project.
Reduced-Scale Alternative	Overall demand for police and fire would be slightly less than the proposed project.	Provides adequate elementary and high schools. Could impact existing facilities, depending upon phasing.	Adds 361 acres of regional parks, 294 acres of landscape easements, and 67 acres of neighborhood and community parks. This acreage is adequate for this alternative.	Would create significantly less solid and hazardous waste.
Tracy Alternative Site	Impacts similar to proposed project.	Deficit in first phase of one elementary school; inadequate phasing of high school.	Insufficient supply of regional park acreage.	Inadequate provision for reduction of waste by recycling. Would reduce landfill capacity.
N. Livermore Alternative Site	Demand for service similar to proposed project. However, service transferred to City of Livermore or Alameda County.	Fewer schools would be required based on standards and generation rate.	Does not supply sufficient regional park acreage.	Inadequate provision for reduction of waste by recycling. Would reduce landfill capacity in Alameda County.

Table 5.1-2 - *continued*

ALTERNATIVE	PUBLIC UTILITIES/WATER & WASTEWATER		
	Wastewater Flows that Exceed Wastewater Collection and Treatment Capacity	Water Demand that Exceeds Available Supply/Potential for Groundwater Overdrafting	Potential to Create a Public Health Hazard
Proposed Project	Discharge to Old River could result in degradation of surface waters. (Inadequate wastewater treatment system could result in discharge of partially treated effluent into the reclamation system.)	Development outside BBID boundaries. Possible lack of a year-round water source. If the water supply were less than projected and groundwater sources were tapped, overdrafting could occur.	Potential of providing untreated water, inadequate wastewater treatment, inadequate water treatment and wastewater sludge disposal. Potential for uncontrolled release of hazardous materials.
No Project	No impacts.	No impact.	Hazardous materials and toxic substances used in the form of pesticides and herbicides for agricultural uses.
Redesigned Project	Impacts regarding discharge would be similar to the proposed project. Reduced wastewater generation. Phasing plan would extend wastewater collection system to match development. Increased opportunity to use reclaimed water.	Reduced potential for groundwater overdrafting. Reduced difference between water supply and demand. Phasing plan would extend water distribution system to match development.	Reduced potential to create a public health hazard and reduced potential for release of hazardous materials.
Reduced-Scale Alternative	Impacts regarding discharge would be similar to the proposed project. Significantly reduced wastewater. Increased opportunity to use reclaimed water.	Significantly reduced potential for groundwater overdrafting. Significantly reduced difference between water supply and demand.	Significantly reduced potential to create a public health hazard. Significantly reduced potential for release of hazardous materials.
Tracy Alternative Site	Impacts similar to those of the project.	Impacts similar to those of the proposed project.	Impacts similar to those of the proposed project.
N. Livermore Alternative Site	Future growth could exceed existing and planned capacity for treatment and transport of wastewater.	Alameda County Flood Control and Water Conservation District, Zone 7, does not currently plan to extend service to Northern Livermore and has limited capacity.	Impacts would be the same as the project for reclaimed water use, but no water and wastewater systems are proposed since existing systems would be extended.

ALTERNATIVE	PUBLIC UTILITIES/STORM WATER, ENERGY, AND UTILITIES			
	Potential for Flooding	Degradation of Water Quality from Urban Runoff	Potential Infringement of Utility Easements	Consumption of Energy Resources
Proposed Project	Major storm water facilities would be required to convey rain water off the project site to prevent flooding.	Pollutants in urban runoff would likely degrade water quality in Old River.	Major gas and electricity transmission lines cross the project site. The proposed development does not specify how utility easements would be honored.	The project would create a large new energy demand that would contribute to the depletion of renewable and nonrenewable resources.
No Project	Existing drainage facilities are sufficient except for occasional flooding of the areas adjacent to Old River and lower sections of Mountain House Creek.	Existing runoff into Old River flows across agricultural lands and contains significantly less of the pollutants that are normally found in urban runoff.	Utility easements would not be infringed upon.	No impact.
Redesigned Project	Although volume of runoff would be less, significant improvements and infrastructure would be needed to prevent flooding.	Pollutant loading would be slightly lower due to the larger area not developed and smaller population.	Open space corridors are designated for some but not all the utility easements.	The slightly lower population and developed area would create a slightly lower energy demand.
Reduced-Scale Alternative	Smaller runoff volumes would result from this alternative. Therefore smaller collection system would be needed. Impacts would be more easily mitigated.	Pollutant loading would be lower due to the larger area not developed and smaller population.	One natural gas line and one electric power line easement exist within the proposed developed area. Construction over or within easement would require prior PG&E approval.	The compact development and lower population would have a smaller energy demand and consume fewer energy resources.
Tracy Alternative Site	Similar collection system on-site would be needed, but stream modification not required. May need large conveyance structure to convey runoff to Old River if City of Tracy facilities cannot accommodate additional flows.	Similar pollutant concentrations and loading are anticipated.	Both electrical and natural gas easements cross this alternative site. Potential for infringement of easement is similar to the proposed project.	Energy consumption is expected to be the same.
N. Livermore Alternative Site	Stream modification and extensive collection system required. Capacity of downstream channels may be limited and needs further investigation.	Similar pollutant concentrations and loading are anticipated.	One natural gas pipeline exists across the alternative site. Setbacks from the easement could be provided.	Energy consumption is expected to be the same.

ALTERNATIVE	CULTURAL RESOURCES	GEOLOGY, SEISMICITY & SOILS	
	Disruption of Prehistoric and Historic Resources	Exposure of People or Structures to Potential Major Geologic Hazards	Construction of Structures in Areas with Adverse Soil Conditions
Proposed Project	Could impact prehistoric and historic resources.	The proposed project would result in a significant increased exposure of people and structures to strong seismic shaking and potential levee failure.	The proposed project would include construction within areas with adverse soil conditions, including high shrink-swell potential, high organic content, and high groundwater levels.
No Project	No impact.	No impact.	No impact.
Redesigned Project	Impacts could be slightly reduced due to greater amount of acreage to be left undeveloped.	Reduced development would reduce the number of people and structures subject to strong seismic shaking.	Development of a park along the northern portion of the site would reduce construction in areas with high shrink-swell potential, high organic content, and high groundwater.
Reduced-Scale Alternative	Impacts would be reduced due to greater amount of acreage to be left undeveloped.	Reduced development would reduce the number of people and structures subject to strong seismic shaking.	Designation of the northern portion of the site for agricultural land use would reduce construction in areas with adverse soil conditions.
Tracy Alternative Site	Similar impacts could occur but would require further archaeological investigation.	Development at the Tracy Alternative site would subject similar number of people and structures to strong seismic shaking, although levee failure would not be a related effect.	Development would be subject to reduced hazards associated with shallow groundwater and highly organic soil.
N. Livermore Alternative Site	Unrecorded historic and prehistoric sites could be impacted.	Development would be affected by strong and possibly violent seismic shaking.	Development at the N. Livermore site would be subject to fewer hazards associated with shallow groundwater and highly organic soils.

Table 5.1-2 - *continued*

ALTERNATIVE	HYDROLOGY AND WATER QUALITY	
	Substantial Flooding Impacts on Development within the Floodplain	Degradation of Water Quality (including Siltation from Erosion and Urban Runoff)
Proposed Project	Northern portion of site potentially flooded during 100-year flood by levee overtopping or failure.	Sediment discharge and accumulation in Old River is expected at the outlet of the marina and the mouth of Mountain House Creek.
No Project	No impact.	No impact.
Redesigned Project	Residential and commercial development would not occur within 100-year flood zone.	Reduced development would result in a reduction of the amount of impervious surface and quantity of urban runoff. Circulation in the redesigned marina may be slightly reduced.
Reduced-Scale Alternative	Land use within 100-year flood zone would remain agricultural, reducing the impact of flooding.	Reduced development would result in less urban runoff. Water quality impacts associated with a marina could be eliminated.
Tracy Alternative Site	Alternative site is outside areas of inundation by 100-year flood.	Alternative site would not discharge directly to major surface water body or stream channel limiting sediment discharge.
N. Livermore Alternative Site	Potential flooding in narrow zones along Cayetano and Altamont creeks.	Expected increased sedimentation in Cayetano and Alameda Creeks and Arroyo Las Positas.

ALTERNATIVE	VISUAL QUALITY		
	Inconsistency with Character and Form of Surrounding Development	Increase in Light or Glare	Removal of Major Vegetation
Proposed Project	Would convert 4,667 acres of agricultural land to urban uses. Views from freeways and major arteries would be altered.	Impacts of light and glare could occur due to urban uses.	Could result in removal of trees due to required road widening.
No Project	No impact.	No impact.	No impact.
Redesigned Project	Would retain agricultural uses near I-205 and large areas of open space at edges of site.	Would be similar to proposed project, but on-site open space would screen lights from some major roads.	Could require removal of trees, but significant new landscaped areas are proposed.
Reduced-Scale Alternative	Would retain large portions of site in agricultural and open space uses.	Impacts would be less than proposed project due to small developed area.	Road widening and impacts to trees likely to be reduced due to reduced scale.
Tracy Alternative Site	Would be similar to proposed project, but would not result in development at a visual gateway to County.	Would be similar to proposed project.	No major vegetation likely to be removed.
N. Livermore Alternative Site	Impacts would be similar to proposed project due to proximity of I-580.	Would be similar to proposed project.	Could result in removal of large oaks and other vegetation.

Table 5.1-2 - *continued*

ALTERNATIVE	FISCAL AND FINANCIAL IMPACTS		
	Potential for Public costs to Exceed Public Revenue	Potential for Capital Facilities Financing to Impose an Unreasonable Burden on Property Owners	Potential to Negatively Affect the "Fiscal Well-Being" of Nearby Cities
Proposed Project	Service costs generated by the proposed project could exceed public revenues contributed by the proposed project.	Financing costs associated with public facilities needed for the proposed project have the potential to be too expensive for project-area homeowners.	The proposed project has the potential for initially generating public revenues (sales taxes) at nearby cities. Over the long term, however, this benefit could disappear or become negative.
No Project	Not applicable.	Not applicable.	Not applicable.
Redesigned Project	Compared to the proposed project, the Redesigned Alternative could generate a larger revenue deficit for the County.	Financing costs associated with public facilities needed for the Redesigned Project have the potential to be too expensive for project-area homeowners (not quantified, though).	The Redesigned Alternative has the potential for initially generating public revenues (sales taxes) at nearby cities. Over the long term, this benefit could disappear or become negative.
Reduced-Scale Alternative	Compared to the Proposed Project, the Reduced Scale Alternative could generate a larger revenue deficit for the County.	Financing costs associated with public facilities needed for the Reduced Scale Alternative have the potential to be too expensive for project-area homeowners (not quantified, though).	The Reduced Scale Alternative has the potential for initially generating public revenues (sales taxes) at nearby cities. Over the long term, this benefit could disappear. Potential effects could be less than the Proposed Project.
Tracy Alternative Site	Shifting the proposed project from its current site to the City of Tracy could eliminate the potential for the project to have a negative fiscal impact on the County.	Financing costs associated with public facilities needed at an alternative site have the potential to be too expensive for project-area homeowners (not quantified, though).	Shifting the proposed project to the City of Tracy would force the latter to incur service costs that could potentially (but not necessarily) exceed project-related revenue contributions.
N. Livermore Alternative Site	Shifting the proposed project from its current site to the Livermore area would eliminate the potential for the project to have a negative fiscal impact on the County.	Financing costs associated with public facilities needed at an alternative site have the potential to be too expensive for project-area homeowners (not quantified, though).	Shifting the proposed project to the City of Livermore would force the latter to incur service costs that could potentially (but not necessarily) exceed project-related revenue contributions.

Table 5.1-2 - *continued*

ALTERNATIVE	POPULATION, HOUSING, AND EMPLOYMENT	
	Inadequate Provision of Employment in Relationship to Proposed Employment, Resulting in Required Commuting	Inadequate Mix of Housing To Meet Needs of Residents with Varying Incomes
Proposed Project	The proposed project may not attain a balance between jobs and housing, and would exacerbate the imbalance between jobs and housing that currently exists in both the Tracy Planning Area and San Joaquin County.	The proposed project may not have a sufficient supply of housing that is affordable to workers employed in the community, or to low-income residents of San Joaquin County.
No Project	No impact.	No impact.
Redesigned Project	Compared to the proposed project, the Redesigned Project would slightly improve the ratio of employed residents to jobs upon residential buildout. However, out-commuting is still likely to be substantial.	May have a larger percentage of its housing affordable to workers employed in the community. There would still likely be an undersupply of affordable units.
Reduced-Scale Alternative	Employment and housing would be in approximate balance, assuming this alternative attains residential buildout.	May have a larger percentage of its housing affordable to workers employed in the community. There would still likely be an undersupply of affordable units.
Tracy Alternative Site	Shifting the proposed project from its current site to the City of Tracy would not change the project's impact on either the County's or the planning area's jobs-to-housing balance.	Shifting the proposed project from its current site to the City of Tracy would not change the project's mix of housing units or their proposed prices. Total housing costs might be lower in Tracy if expenses for capital facilities and services can be spread over a wider population base.
N. Livermore Alternative Site	Shifting the proposed project from its current site to the Livermore area would improve San Joaquin County's future jobs/housing balance. The project itself would still likely be imbalanced toward an excess of housing.	Shifting the proposed project from its current site to an area north of Livermore would not change the project's mix of housing unless it could affect their prices. Given that average housing prices are higher in Livermore than in Tracy, housing affordability impacts could be worse.

ALTERNATIVE	PUBLIC HEALTH AND SAFETY	
	Creation of Potential Health Hazard	Use, Production, or Disposal of Materials that Pose a Hazard
Proposed Project	Potential exposure to subsurface contamination. Exposure to agricultural chemical residue. Potential adverse health effects associated with wastewater treatment.	Potential exposure to continued use of agricultural chemicals, hazardous materials used during and after development, and electromagnetic fields from transmission lines.
No Project	No impact.	Continued application of agricultural chemicals with reduced exposure; reduced exposure to electromagnetic fields.
Redesigned Project	Potential exposure to subsurface contamination; reduced exposure to agricultural chemical residue due to proposed setbacks.	Reduced exposure to continued use of agricultural chemicals; reduced exposure to electromagnetic fields from transmission lines.
Reduced-Scale Alternative	Potential exposure to subsurface contamination; reduced exposure to agricultural residue.	Potential increase in exposure to use of agricultural chemicals; reduced exposure to electromagnetic fields from transmission lines.
Tracy Alternative Site	Exposure to agricultural chemical residue and potential hazards associated with pipelines.	Potential exposure of people to hazardous materials during and after development and electromagnetic fields from transmission lines.
N. Livermore Alternative Site	Elimination of potential adverse health effects associated with wastewater treatment. Surrounding grazing lands would result in reduced exposure to agricultural chemical residue.	Potential exposure to hazardous materials during and after development and electromagnetic fields from transmission lines.

ALTERNATIVE	BIOLOGICAL RESOURCES		
	Substantial Effect on Rare, Threatened, or Endangered Species	Substantial Interference with Movement of Any Resident or Migratory Fish or Wildlife Species	Substantial Decrease in Habitat for Fish, Wildlife, or Plants
Proposed Project	Substantial impacts, especially upon Swainson's hawk. The possible presence of the San Joaquin kit fox is also a major factor.	Residential development, plus the marina in the Old River-Byron Road area, negate all possible terrestrial wildlife movement.	All of the raptor feeding area would vanish, and the marina and its side effects would greatly reduce the worth of the Old River inshore zone as a fish nursery area.
No Project	No impact.	No impact.	No impact.
Redesigned Project	Same impacts as with proposed project.	Same impacts as with proposed project.	Same impacts as with proposed project.
Reduced-Scale Alternative	This alternative may promote protected species even more than the present situation in the Byron Road-Old River area.	Though enhancing the northern one-third of the site, it alternatively would totally negate terrestrial wildlife movement in the southern two-thirds of the site.	Burrowing owl and potential red-legged frog and California tiger salamander habitat would be reduced. Large areas of Swainson's hawk foraging area would be retained.
Tracy Alternative Site	Potentially significant impacts should the San Joaquin kit fox be found along with foraging Swainson's hawk.	The southern portion of the development could affect a San Joaquin kit fox movement corridor.	There would be a substantial decrease in foraging habitat and wildlife, but not fish habitat.
N. Livermore Alternative Site	Relatively few impacts if a design adjustment can be made to accommodate and preserve the Valley Sink area.	Given the rapid development adjacent to this site, this alternative would cause little influence on movement.	No impacts unless Valley Sink area cannot be properly accommodated.

Table 5.1-2 - continued

ALTERNATIVE	TRANSPORTATION			
	Reduction in Levels of Service for Major Highways	Reduction in Levels of Service for Major Arterials in Vicinity of Project or Alternative Site	Inadequate Provision for Public Transit or Opportunities for Public Transit due to Land Use Pattern	Inadequate Provision for Pedestrian and Bicycle Circulation
Proposed Project	I-580, I-205 at LOS F with cumulative development including project.	Widening of major arterials in site vicinity would be required.	Preponderance of low-density development not supportive of transit, but location provides good access to transit corridors.	Density and land use patterns insufficient to promote large share of walk, bicycle trips.
No Project	Cumulative development would significantly impact I-580, I-205.	No impact.	No impact.	No impact.
Redesigned Project	Fewer jobs would mean greater export of work trips.	Town center oriented internally, not to Patterson Pass Road.	Cluster concept would facilitate transit needs.	Greater proportion of walk trips with denser uses.
Reduced-Scale Alternative	Lower overall impact. Cumulative development would reduce LOS on I-580, I-205.	Would still require widening of arterials.	Limited density to support transit.	No impact.
Tracy Alternative Site	Less impact on I-205. Site access could be via I-580 east of I-205/I-580 junction.	Arterials would also handle traffic from other major development in Tracy.	Similar to proposed project.	No impact.
N. Livermore Alternative Site	Would place housing closer to job centers.	Traffic concentrated on single arterial.	Would be close to eventual BART extension to Livermore.	No impact.

Table 5.1-2 - *continued*

ALTERNATIVE	POTENTIAL FOR AIR QUALITY RELATED LAND-USE CONFLICTS			
	Violation of Air Quality Standards	Exposure of Sensitive Receptors to Substantial Pollutant Concentrations	Creation of Significant Construction Emissions	Creation of New Carbon-Monoxide Hot Spots
Proposed Project	Significant increase in regional emissions of ozone precursors and PM-10.	Create potential for agricultural-residential conflicts and industrial-residential conflicts.	Creates significant local and regional dust emissions.	Does not create new carbon monoxide hot spot problems.
No Project	No impact.	No impact.	No impact.	No impact.
Redesigned Project	Significant increase in regional emissions of ozone precursor and PM-10.	Limited potential for local land-use conflicts.	Creates significant local and regional dust emissions.	Does not create new carbon monoxide problems.
Reduced-Scale Alternative	Significant increase in regional emissions of ozone precursor and PM-10.	Limited potential for local land-use conflicts.	Creates significant local and regional dust emissions.	Does not create new carbon monoxide problems.
Tracy Alternative Site	Significant increase in regional emissions of ozone precursor and PM-10.	Same as project.	Creates significant local and regional dust emissions.	Does not create new carbon monoxide hot spot problems near Mountain House Site; impacts on Tracy unknown.
N. Livermore Alternative Site	Significant increase in regional emissions of ozone precursor and PM-10.	Potentially same as project.	Creates significant local and regional dust emissions.	Does not create new carbon monoxide hot spot problems near Mountain House site; impact in Livermore unknown.

Table 5.1-2 - *continued*

ALTERNATIVE	NOISE		
	Substantial Increase in Ambient Noise Level in Areas Adjacent to the Project Site	Exceedances of Land Use Compatibility Standards for Community Noise	Exposure of Project Residents or Employees to Excessive Noise (e.g., Airports, Railroad Tracks, Freeways)
Proposed Project	Significant noise level increases (up to 18 dB) are anticipated along major roads in and around the site.	Noise sensitive land uses would not be compatible with the noise environment adjacent to I-205, Byron Highway, Patterson Pass Road, and Grant Line Road.	Many residents near I-205, Byron Highway, and Grant line Road, would be exposed to excessive noise.
No Project	Substantial noise level increases along Altamont Pass (16 dB), Mountain House Road (8 dB), Byron Highway (4 dB), Grant Line Road (10 dB), I-580 (3 dB), I-205 (3 dB), 11th Street (5 dB), Lammers Road (6 dB), Corral Hollow Road (8 dB), and Schulte Road (8 dB) due to cumulative traffic.	Noise sensitive land uses are not compatible with the noise environment adjacent to major access roads.	No impact.
Redesigned Project	The resulting noise environment would be similar to the noise environment predicted for the proposed project.	Noise sensitive land uses adjacent to Byron Highway, Grant Line Road, Patterson Pass Road, and near I-205, are not compatible with the predicted noise environment.	Many residents adjacent to Byron Highway, Grant Line Road, and Patterson Pass Road, would be exposed to high noise levels.
Reduced-Scale Alternative	Noise levels would be similar or lower by as much as 3 dB to the noise levels predicted under the proposed project.	Noise sensitive land uses next to Patterson Pass Road and Grant Line Road would not be compatible with the noise environment.	Future residents near Patterson Pass Road and Grant Line Road would be impacted by noise.
Tracy Alternative Site	For the most part, the noise environment would be similar to the one predicted for the proposed project. Significant project specific noise level increases (5 dB) would be experienced along Lammers Road.	Portions of the site adjacent to freeways (I-580, I-205), major roads, and the train tracks, would not be compatible for noise sensitive land use development.	Trains on U.P. tracks, aircraft for Tracy Municipal Airport, and traffic on I-580, Corral Hollow Road, Lammers Road, I-205, 11th Street, Schulte Road, and Valpico Road, would impact project residents significantly.
N. Livermore Alternative Site	Noise levels along I-580 at buildout would be significantly higher than existing, but similar to the noise levels predicted for the proposed project. Portions of the site distant from I-580 would be exposed to project-generated noise that would be significant.	Noise sensitive land uses are incompatible with the noise environment near Interstate 580 and to a less extent next to Livermore Avenue.	Project residents in the vicinity of Interstate 580 or Livermore Avenue would be exposed to excessive noise.

5.2 NO PROJECT ALTERNATIVE

Fire Protection Service

Fire protection demands would not be increased. Temporary and back-up reliance on services provided by the Tracy Rural Fire District would not occur.

Police Protection Service

Increased demands upon the County Sheriff's Department and Boating Patrol would not occur. However, without on-site staff trained in emergency response, response time to locations of Old River adjacent to the site would remain limited as currently occurs.

Solid and Hazardous Waste

Demands for disposal of solid and hazardous waste would not increase, which would lengthen the lifetime of the Foothill Landfill. On-site recycling programs would not be needed.

Libraries

The project's increased demands on library facilities would not occur. However, the City of Tracy would still need a new library to serve the projected 2010 population for this part of the County.

Public Utilities

Water and Wastewater

For the No Project Alternative, no significant environmental impacts related to water or wastewater would occur. Without increased wastewater flows and treatment facilities, no impacts related to wastewater flows that exceed wastewater collection and treatment capacity would occur. Water supply is adequate for existing agricultural irrigation use; therefore, there would be no impacts related to water demand that exceeds available supply.

Storm Drainage, Gas, Electricity, and Telephone

Storm drainage under the No Project Alternative would probably remain the same as existing conditions. Nonpoint source pollutants associated with agricultural runoff would continue to affect water quality. Improvements to Mountain House Creek and the levees along Old river would be needed to prevent all flooding. Because existing land use in the flood prone zones is agriculture, damage from periodic flooding is generally substantially less than for a urban area.

Under the No Project Alternative, the energy demand would remain unchanged from that currently required for residences, farming operations, and dairies within the project site. PG&E would not need to increase its transmission or distribution facilities for the project site for the foreseeable future.

Pacific Bell would not have to reinforce telephone service within the project site under this alternative. Approximately 35 percent of the existing capacity is unused and is anticipated to be sufficient for the next five years of growth in the area without the Mountain House New Town (Corbridge, 1991a).

Cultural Resources

Potential impacts to archaeological and historic resources would not occur. Structures that could be historically significant would not be adversely impacted by this alternative.

Geology, Soils, and Seismicity

Potential seismic hazards associated with the introduction of a large new population to the project site would not occur. Impacts associated with erosion and sedimentation would not take place. Agriculturally-productive soils would not be removed or replaced by urban uses.

Hydrology and Water Quality

Existing on-site flooding problems would continue. However, these problems would not be exacerbated by the introduction of large new areas of impervious surface. Water quality problems associated with urban runoff and dredging for the proposed marina would not occur.

Visual Quality

The project site's role as a visual gateway to San Joaquin County would remain unchanged. Rural images and views to the Diablo range would be protected. Potential visual impacts associated with light and glare would not take place.

Fiscal Impacts

With no project, future development within the County would occur primarily in the existing incorporated areas or other new communities. Because municipalities such as Tracy and Manteca would be responsible for the provision of urban services (e.g., police and fire protection), the County General Fund would likely receive operating revenues that exceed service costs. However, these revenues would be less than the net surplus generated by annexation of the proposed project to the City of Tracy assuming that the proposed project stimulates growth in the County that would not otherwise have occurred.

Financial Impacts

With no project, competition among public agencies for bonding capacity would be lessened, which could improve the ability of these agencies to obtain bond financing for capital improvement projects. The primary beneficiaries of this lessened competition would include the school districts. If the new town special districts created an excessive ratio of bond debt to land value, school districts might experience difficulty issuing bonds while financing other capital infrastructure items.

Population, Housing, and Employment

The existing jobs to housing ratio within the County and the Tracy Planning Area would remain unchanged. Housing and employment would not be provided at the project site, but could continue to be provided within the City of Tracy.

Public Health and Safety

Hazardous materials and toxic chemicals used as part of agricultural practices on the project site in the form of pesticides and herbicides would continue to be used. However, use of these substances that may impact public health is regulated by State and other agencies and would be a less-than-significant impact. New development would not occur adjacent to major transmission lines where potential impacts related to electromagnetic fields may occur. Potential public health and safety impacts related to hazardous waste, and buried fuel lines would not occur. However, existing on-site residents may be subjected to these potential hazards. If spillage were to occur from areas storing hazardous materials, the on-site soils and groundwater may be affected.

Biological Resources

Under this alternative, the rich assemblage of wildlife which has been documented for the area between Byron Road and Old River would presumably continue to flourish as a result of the relatively benign and, in most cases, supportive agricultural practices in that area. The area north of Byron Road is expected to continue to remain productive agricultural land. However, there is no guarantee that agricultural practices would remain unchanged or that degradation of natural habitat would not occur.

Two present negative features of the area would most likely persist and possibly worsen under the No Project alternative. One would be the continued degradation of Mountain House Creek and its riparian zone. The other would be a continuation of the extreme lack of tree and shrub cover throughout the site for wildlife.

Little impacts to Swainson's hawks, kit fox, on-site wetlands, or other biological resources would occur. The site's biological value due to existing agricultural operations would remain unchanged.

Transportation

Increased daily trips in the vicinity of the project site and due solely to the project would not occur. Traffic impacts to freeways, arterials, and local roads associated with the proposed project would not exist. Road widenings along Patterson Pass Road, Grant Line Road, and other roads would not be required unless cumulative traffic associated with countywide growth required such improvements.

Air Quality

This alternative would avoid the construction, regional, and potential local air quality impacts associated with the project.

Noise

Under the No Project alternative, interior noise levels on the site would not increase significantly over the next 20 years. However, noise level increases along other major roads and highways of the greater area would be significant and similar to the noise levels projected under the proposed project. This would be due to cumulative development within the greater area. The greatest noise level increases under the No Project Alternative would be along Mountain House Road (7 dB), Altamont Pass Road (17 dB), and Byron Highway (5 dB). For the most part, under the No Project Alternative, noise levels in the project area would remain at the current level.

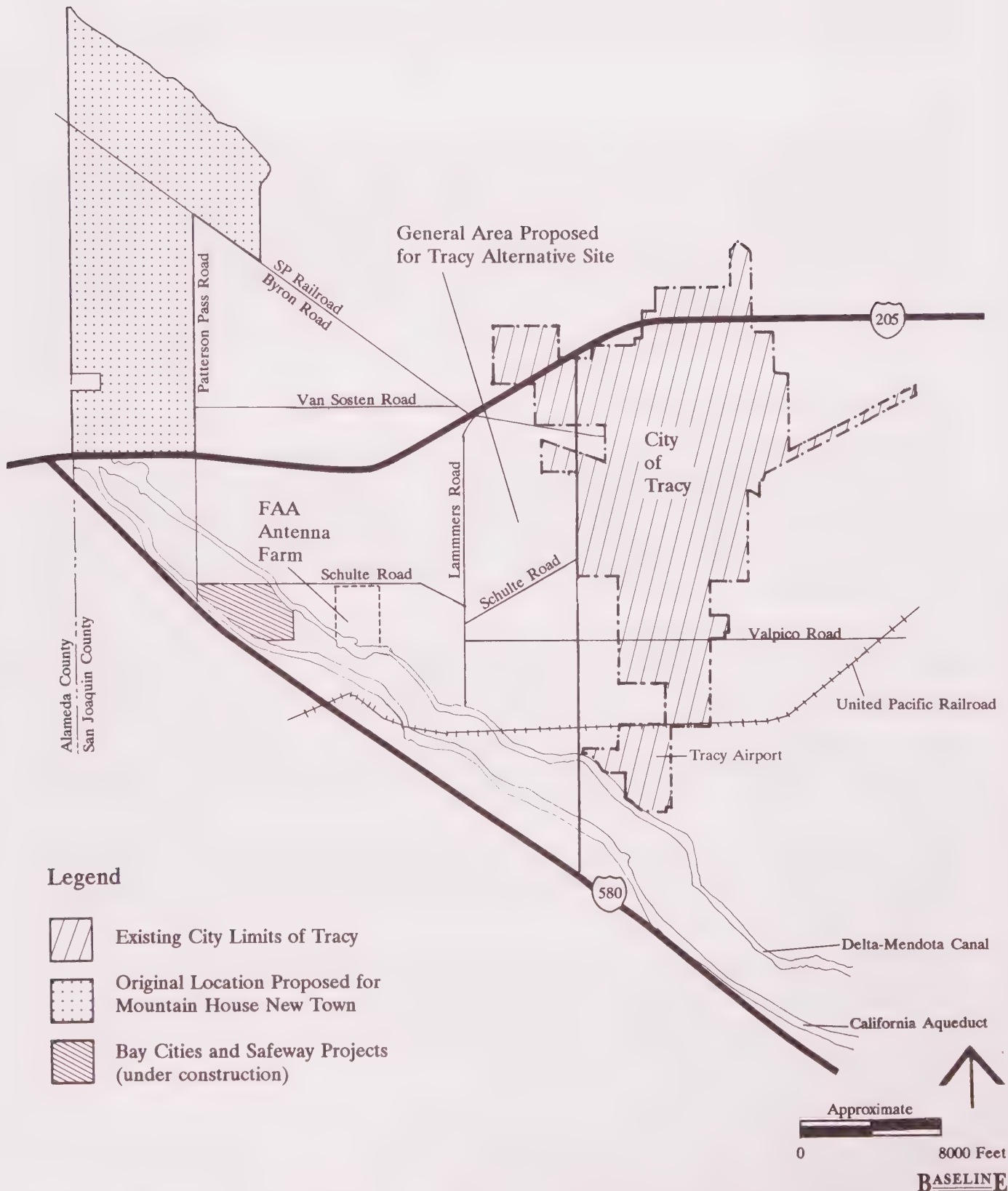
5.3 TRACY ALTERNATIVE SITE

This alternative site was selected for the purpose of providing a comparative environmental and fiscal analysis if the project were to be relocated to the edge of the Tracy city boundaries. The selected location could provide a logical extension of the city boundaries rather than developing a self-contained new community at a relatively short distance from an established municipality. Relocation of the project to this site would increase City revenues, whereas at the proposed site revenues could be drawn away from the City through commercial competition, sales, and property taxes.

Applications have been approved and construction is underway for light industrial land uses located adjacent to I-580 and south of I-205, west of the Tracy city limits. Additionally, the Tracy Hills development project has been proposed on both the east and west sides of I-580. Relocation of the Mountain House development to the Tracy Alternative Site would provide a continuous development pattern between existing city boundaries and existing development patterns along the east side of I-580. This alternative site is also located within the City of Tracy's expanded area currently under study for its General Plan update.

The site of this alternative is located at the western edge of the City of Tracy (Figure 5.3-1) and generally bounded by 11th Street to the north; Corral Hollow Road to the east; I-580 to the southwest; and Lammers Road to the west.

Currently, an application for development of the southern one-third of this alternative site has been submitted to the County as a part of a much larger development (Tracy Hills) that extends into the lands south of I-580 (Figure 4.2-3). The Tracy Hills application is undergoing environmental review as part of the County's Revised General Plan.



The entire Mountain House New Town could be located on this alternative site with the exception of the marina. Because the project could be incorporated into the City of Tracy, which has a town center in place, the proposed acreage for a town center has been replaced with 20 acres of neighborhood commercial uses and 23 acres of freeway commercial uses at this alternative site. The 60 acres designated for a marina could be applied towards 60 acres of regional parkland.

Land Use, Agricultural, and Planning Issues

Agriculture is the predominant land use within and adjacent to this alternative site. A portion of the alternative site would be located within the Tracy Airport Restricted Land Use Area which includes land within 9,000 feet from the end of the runways. Height limitations are imposed within the 9,000-foot radius based upon a ratio of horizontal and conical surfaces to building height. aircraft noise and potential aircraft hazards are primary considerations with development at this location. A mix of urban land uses and agricultural lands are found east of the site and within the Tracy city limits. The FAA Antenna Farm is located at the western edge of this alternative site (Figure 5.3-1). Two aqueducts cross the southern portion of this site, which could pose development constraints.

Similar to the proposed project, this alternative site is designated as General Agriculture in the County's existing 1995 General Plan. The site is zoned AG-40 (General Agricultural, 40-acre minimum), also similar to the project site. Placement of the project in close proximity to an existing urban community would provide for a natural progression of development which would minimize growth-inducing impacts. Potential conflicts associated with urban/rural land uses would be similar to the proposed project at the western edge of this alternative site. Existing and proposed residential and other urban uses at the eastern edge of this alternative site would result in fewer land use conflicts than the proposed project.

Two small areas of residential development are located on the west side of Corral Hollow Road and would be surrounded on two or three sides by the project at this location. Residents of these parcels would be subject to increased noise levels as a result of the project. Residential land uses located in close proximity to the Tracy Airport would also be subject to higher noise levels, as would residents residing near I-580 and I-205.

The extent of land designated "Prime Farmland" is equivalent to the project site and the loss of prime agricultural land would be similar to the proposed project. Several parcels would have to be taken out of the Williamson Act contract, although the acreage under Williamson Act contract at this alternative site is less than that of the proposed project site (Figure 4.1-2). As with the project site, findings would need to be made by the County Board of Supervisors to warrant cancellation of these contracts.

A General Plan amendment and rezoning would be needed for this alternative site to be converted to urban uses. If the site were annexed to the City of Tracy, the City's General Plan and Zoning Ordinance would

5.3 TRACY ALTERNATIVE SITE

apply to the site. Annexation would be assumed to occur due to the site's proximity to the existing City limits.

Public Services

Parks and Recreation

Development of the Tracy Alternative Site would create similar impacts as the proposed project on County and regional park facilities. The acreage set aside for a marina at the project site could be applied for regional park use at this alternative site which would reduce impacts related to a deficit of regional parkland. The full impact of the demand for regional parks would not be fully mitigated. Existing public and private marinas would be impacted because this alternative would not provide this amenity. The inclusion of neighborhood and community parks and golf courses would be similar to the proposed project, and would meet the anticipated demand for such facilities.

The City would require that neighborhood, community, and regional parks, and golf courses be provided to serve the new community. A comparison of the acreage requirements for the City and County are as follows:

	<u>City of Tracy</u>	<u>San Joaquin County</u>
• Regional park	10 acres per 1,000 residents	3 10 acres per 1,000 residents
• Community park	5 to 8.5 acres per 1,000 residents	10 3 acres per 1,000 residents
• Neighborhood park	4 acres per 1,000 residents	3 acres per 1,000 residents (part of community park requirements)
• Golf course	1 per 50,000 residents	No standard

Schools

This alternative is also located within the Tracy Public School District. School-age children would attend Jefferson Elementary School and the Tracy High School in Tracy until new on-site schools were provided. Thus, school impacts would be similar to those of the proposed project. A small strip of land extending west of Lammers Road is located within the Lammersville Elementary School District. Depending upon development patterns, students may or may not attend this school. Students would most likely need to be bussed and funding would be required to acquire additional buses to accommodate the student increase.

Fire and Police Protection Services

The Tracy Rural County Fire Protection District would provide service to the site, unless annexed to the City of Tracy. Upon annexation, the City of Tracy would provide fire protection service. For a project of this size, a fire station would be required on-site and additional manpower and equipment would be needed.

Law enforcement would be provided by the County Sheriff's Department. Upon annexation to the City of Tracy, the City police department would serve the site. Development at the alternative site would require additional patrol units and a police substation. The applicant's proposal to establish a safety department

would not be appropriate at this alternative site since the City of Tracy has established separate fire and police departments.

Solid and Hazardous Waste

Impacts associated with solid and hazardous waste would be the same at this alternative site as with those associated the proposed project. Collection service would be provided by Tracy Delta Disposal and solid waste would continue to be disposed of at the Foothill Landfill. The generation of solid waste and demand for landfill capacity associated with the proposed project would be similar to this alternative.

Libraries

Local County libraries would be impacted by the increased in demand for service until such time as a new library can be constructed on the site. The impacts would be the same as for the proposed project.

Public Utilities

Water and Wastewater

Since the Tracy Alternative Site is in the vicinity of the project site, the impacts resulting from inadequate water supply would be similar to the project. The alternative site is directly adjacent to Tracy and a logical solution to water supply would be to annex to the City of Tracy for water service. However, Tracy has not planned for development in this area, and water would have to be obtained from another source. In the initial years of development, wells could provide projected water needs. Later phases would require a combination of water from both wells and surface water sources that have not yet been identified. Lack of a secure water source could be a significant limitation on development. Annexation to the specific irrigation or water district with jurisdiction would be an option. Developing outside an irrigation or water district boundaries, not providing a year-round source, and supply of water less than demand could result in overdrafting of local groundwater supplies.

Development of the project at the Tracy Alternative Site would have similar wastewater impacts to those of the proposed project site. As with the proposed project, wastewater could be reclaimed for land disposal. Reclaimed water from the treatment facility could be used for landscaping and golf course irrigation. This reclamation proposal could result in partially treated effluent being discharged. Operation of a water reclamation system would be regulated as for the proposed project.

Storm Drainage, Gas, Electricity, and Telephone

The Tracy Alternative Site is outside of the 100-year flood zone as delineated by the Federal Emergency Management Agency. The internal storm drainage system would be similar to that for the proposed project except enlargement of a creek would not be needed. Because this alternative site is located more than three miles to the south of Old River, the nearest natural body of water, a large conveyance facility would be needed to carry water from the edge of the project to Old River. The City of Tracy has a Storm Drainage Master Plan which calls for collecting and conveying runoff from the whole City to Old River via Sugar Cut located adjacent to the City's wastewater treatment plant. The additional runoff from the relocated project would likely exceed the capacity of the existing or designed channels included in the Master Plan. The project may have to provide its own channel to carry water to Old River or negotiate with the City regarding the use of the City's channel.

The energy demand associated with the Tracy Alternative Site would be almost identical to the proposed project. Because the climate, population, land use, and construction needs would be the same, significant new electricity and natural gas distribution facilities would be needed, regardless of project relocation within the Central Valley. Under this alternative, gas and electrical lines would have to cross two major canals in the southern portion of the site. Transportation-related energy demands could be slightly reduced under this alternative due to the site's proximity to employment centers and regional-serving retail facilities existing and proposed in the City of Tracy.

The project at the Tracy Alternative Site would require essentially the same level of telephone service expansion as required for the proposed project. The scope of work required to provide telephone service to a development the size of the Mountain House New Town is so large that little advantage would be gained by locating the project near an existing urban center (Corbridge, 1991b).

Cultural Resources

No archaeological reconnaissance has been completed for the Tracy Alternative Site. However, similar potential impacts to unidentified and unrecorded historic and archaeological resources could occur with this alternative.

Geology, Soils, and Seismicity

The geologic and seismic setting of the Tracy Alternative Site is similar to that of the proposed project site. The potential geologic and seismic impacts identified for the project would also apply to this alternative, except those related to levee failure. As with the proposed project, prime agricultural soils would be taken out of production. Class I and II soils are located throughout this alternative site, except between the California Aqueduct and I-580 where Class IV soils are located.

Hydrology and Water Quality

Similar to the proposed project, the Tracy Alternative Site would be located at the base of the Altamont Pass and would have similar climatic conditions. No well-defined natural drainage channels have developed within the boundaries of this alternative site. Drainage is toward the northeast, conveyed by overland flow and drainage ditches. In addition to the Delta-Mendota Canal and California Aqueduct, two irrigation canals, the Upper and Lower Main Canal, also traverse the site.

Development of the Tracy Alternative Site would result in increased storm water runoff similar to the proposed project. Drainage channels and storm water systems would need to be developed to convey the surface runoff. The construction of drainage channels would concentrate the runoff from the site and could increase the potential for erosion. The runoff would ultimately discharge to Old River, increasing flood discharges and the flood stage in Old River. Potential sedimentation associated with erosion would probably not affect water quality of regional surface water bodies.

The Tracy Alternative Site project would not include development of a marina within the south Delta. The potential impacts of marina development on Old River associated with the proposed project would not occur with this alternative. The potential for flooding of the proposed project site, caused by levee failure, or overtopping during a 100-year flood would not be present for this alternative.

The hydrogeologic conditions at the Tracy Alternative Site are similar to those described for the proposed project. A significant difference between the two sites is that shallow groundwater levels expected in low elevation areas in the northern portion of the proposed project site would not be expected at the Tracy Alternative Site. The impacts related to effects of shallow groundwater on foundation and pavement stability that were described for the proposed project site would not be expected at the Tracy Alternative Site except in areas subject to leakage from canals.

The groundwater in the area of the Tracy Alternative Site, as at the project site, contains elevated total dissolved solids and sulfates. If the groundwater were used as a drinking water source, the low quality of the groundwater could be improved by costly treatment methods. Pumpage of groundwater from beneath this alternative site at a rate greater than groundwater replenishment by recharge could result in depression of the groundwater levels. Sustained depression of groundwater levels could result in saltwater intrusion to the shallow aquifers and ground surface subsidence.

Visual Quality

Visual quality impacts for the Tracy Alternative Site would be very similar to the proposed project due to the site's level topography and rural character, and the visibility of nearby foothills (Figure 5.3-2). However, this alternative site does not form a visual gateway to San Joaquin County, as does the proposed project,

which would reduce its potential visual impacts. This site would be visible from elevated portions of I-580 and I-205.

Fiscal Impacts

Development of the proposed project as part of Tracy would have a net fiscal benefit for the County General Fund, as the City would become responsible for providing the urban-type services which the County would otherwise have to finance. Although the General Fund revenues received by the County would be reduced in relation to those contributed by the proposed project, service costs would decline by an even greater amount, resulting in net revenue surpluses over the buildout period (Table 5.3-1). Assuming the project develops as proposed by the applicant, the net surplus to the County could rise from \$558,000 in 1993, to \$6.9 million by the year 2010, which represents buildout. More than 80 percent of the revenue received from the County would be in the form of property taxes. If the proposed project remains unincorporated, it could generate a year 2010 surplus of \$1.5 million for the County General Fund. Appendix 10.19 presents the fiscal model used for the Tracy Alternative.

Financial Impacts

Development at the Tracy Alternative Site may result in lower capital costs and burdens for the proposed project because: 1) existing infrastructure, such as roads, could be used to a certain (but unknown) extent, and 2) the amount of developed acres — and therefore street-miles — could be reduced given that the project's residents could use existing retail facilities rather than require the construction of new facilities. However, the City requires that the services and facilities needed by new development be financed by these service recipients rather than by Tracy residents at large. Consequently, the applicant would still need to form a Communities Facilities District and/or a benefit assessment district to finance the required public improvements.

Population, Housing, and Employment

Shifting the proposed project from the proposed site to the edge of the City of Tracy would not change the project's impact on either the County's or the Tracy Planning Area's jobs/housing balance. However, this relocation could allow Tracy to continue to grow as planned. The amount of development that occurs within the Planning Area would be determined largely by regional market forces. These forces would not differentiate between Tracy or the Mountain House New Town as potential sites for new growth.

Housing built at the edge of Tracy might be less expensive than housing built at the proposed project site. Although the sales prices and rents are likely to be the same for similar product types at either location, the add-on charges for facilities and services could be lower in Tracy given that, as an established community, some of these costs could be spread among a wider base of developed land.



a) View of Tracy Alternative Site, looking north from the intersection of Lammers Road and Schulte Road.



b) View of Tracy Alternative Site, looking south from Corral Hollow Road near Schulte Road.

TABLE 5.3-1

SUMMARY OF REVENUES AND EXPENDITURES, TRACY ALTERNATIVE
(dollars, in thousands)

	Fiscal Year Ending																	
Item	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
General Purpose Programs																		
Revenues	1,227	2,437	3,633	4,661	5,683	6,701	7,716	8,730	9,712	10,695	11,681	12,671	13,665	14,448	15,240	16,042	16,853	17,675
Expenditures	668	1,337	2,005	2,722	3,326	3,931	4,536	5,141	5,749	6,357	6,965	7,573	8,181	8,705	9,229	9,752	10,276	10,800
Net Surplus (Deficit)	558	1,100	1,628	1,939	2,357	2,770	3,180	3,589	3,963	4,338	4,716	5,098	5,484	5,743	6,011	6,290	6,577	6,875
Library																		
Revenues	69	136	202	259	315	371	427	483	536	590	643	697	752	794	836	879	923	968
Expenditures	34	69	103	134	165	196	228	259	290	321	353	384	415	442	469	496	523	550
Net Surplus (Deficit)	35	67	99	125	150	175	199	224	246	269	290	313	337	352	367	383	400	418

Note: See Appendix 10.19 for additional detail regarding these projections.

Source: Economic and Planning Systems, Inc.

The extent to which these costs would be lower (if they are at all) would depend upon: 1) the difference in the size between the fees used to finance additional services/facilities in each of the communities (costs might not be too different since Tracy currently uses community facilities districts as a method to pay for new infrastructure, as would the Mountain House New Town), and, 2) whether the housing market has a supply of product sufficient relative to demand to force developers to reflect these differences in their sales prices.

Public Health and Safety

Portions of the site north of the California Aqueduct may contain pesticide/herbicide residues in the surface soils from past and current agricultural practices. Development of these areas could result in residents being exposed to hazardous materials during and following site development. Pipeline and transmission line easements could restrain development patterns.

Biological Resources

This site has approximately the same number of federally listed candidate wildlife species and State-listed wildlife species of special concern as the Mountain House site, although the complement is somewhat different. This site also provides extensive foraging for the Swainson's hawk due to the many acres planted in alfalfa.

Additionally, the Federal- and State-listed endangered San Joaquin kit fox may be present in the southern portion of this site along the two canals. A den sighting has been reported in previous studies for development proposals.

Transportation

The Tracy Alternative site would generally create freeway and roadway impacts similar to the proposed project, though different freeway and roadway segments would be affected. The same number of external trips (trip ends on roadways outside the project site) would be generated in the same general area. Impacts on I-580 through the Altamont Pass and into Livermore would be essentially the same as with the proposed project. **As with the proposed project, road widenings and interchange improvements would be required which would entail crossing two aqueducts and the Union Pacific Railroad tracks.** The Tracy Alternative site would tend to generate more trips to and from the south. Total daily volumes on I-580 south of the I-205/I-580 junction would be about 17 percent higher than for the proposed project. Total daily volumes on I-205 would be from 4 to 14 percent less than with the proposed project, ranging from 101,000 to 138,000 ADT, compared with 115,000 to 144,000 ADT with the proposed project. Assuming the land use plan remains similar to the proposed project, impacts related to opportunities for public transit, walking, and bicycling would be similar to the proposed project.

Air Quality

This alternative would have significant local and regional air quality impacts during construction. The amount and duration of construction activities would be similar to that of the proposed project. Mitigation measures needed for construction dust control would be identical to those for the proposed project.

Regional emissions for this alternative from vehicle travel and residential sources have been calculated and are shown in Table 5.3-2. While regional emissions under this alternative are less than those of the proposed project, the effect of these emissions would be considered significant and adverse. Mitigation measures for regional emissions would be identical to those for the proposed project.

TABLE 5.3-2

2010 REGIONAL AIR QUALITY IMPACTS OF PROJECT AND ALTERNATIVES

	ROG	NO _x	PM-10	SO _x
<u>Proposed Project¹</u>				
Automobile Emissions	3,875	7,842	781	917
Residential Emissions	1,827	364	126	22
Total	5,702	8,206	907	939
<u>Tracy Alternative Site</u>				
Automobile Emissions	2,898	4,771	450	528
Residential Emissions	1,826	363	126	22
Total	4,724	5,134	576	550
<u>North Livermore Alternative Site</u>				
Automobile Emissions	3,449	6,193	605	707
Residential Emissions	1,827	364	126	22
Total	5,276	6,557	729	729
<u>Redesigned Alternative</u>				
Automobile Emissions	3,410	6,922	691	810
Residential Emissions	1,700	339	118	20
Total	5,110	7,261	809	830
<u>Reduced-Scale Alternative</u>				
Automobile Emissions	1,979	4,112	413	484
Residential Emissions	758	151	53	9
Total	2,737	4,263	466	493

¹ Includes emissions for Proposed Project Scenario (100 percent buildout).

The potential for local air quality-related land use conflicts between proposed residential areas and existing agricultural uses and the

potential for conflicts between industrial lands and residential areas within the site would be dependent on the arrangement of uses within the site and so cannot be predicted at this time. However, with surrounding agricultural operations at the Tracy Alternative Site, land use conflicts related to air quality are expected to be similar to the proposed project.

The carbon monoxide impacts of this alternative have been calculated and are shown in Table 5.3-3 for locations near the Mountain House site. Impacts are lower than the proposed project, and in all cases concentrations remain below the applicable State and Federal standards. Greater impacts may occur on streets and roadways closer to the Tracy Alternative Site, but detailed traffic analyses needed to predict

Notes: ROG = Reactive organic gases
NO_x = Nitrogen oxides
PM-10 = Particulate matter, ten microns
SO_x = Sulfur oxides

carbon monoxide concentrations at these locations is not available. The significance of carbon monoxide impacts within Tracy are unknown.

Noise

The Tracy Alternative Site would have main access from I-205 and I-580. A land use plan similar to the proposed project is anticipated under this development proposal. Noise levels on the site are currently low. The project site is in the greater sphere of influence of the City of Tracy. Noise levels at buildout along major streets accessing the site, if the new community were to be located in this area, would increase significantly. However, these noise level increases would be within 2 dB of the noise increases projected under current buildout conditions. Portions of the Tracy Alternative Site located adjacent to the freeways are and would continue to be exposed to noise levels considered to be excessive, particularly for noise sensitive land uses. This site is also bisected by the Union Pacific Railroad tracks, an additional potentially significant noise source. The eastern portions of the site could also be exposed to some aircraft noise from the Tracy Municipal Airport. This alternative site would have a significant number of additional constraints to the ones identified for the proposed project. Development on this alternative site would be less preferable to development on the proposed project site from a noise perspective.

5.4 NORTH LIVERMORE ALTERNATIVE SITE

This alternative site is located north of the City of Livermore in an area known as the Las Positas Valley (Figure 5.4-1). It is a part of the 15,500-acre North Livermore Planning Area currently under study by the City. For the purpose of this discussion, only the level portion of the North Livermore planning area that is served by Livermore Avenue is considered as an alternative site to the project site. This alternative site extends north from I-580 to the Contra Costa/Alameda County line on the site and from Cayetano Creek on the west to the Springtown development on the east. This alternative encompasses approximately the same number of acres as the proposed project. Land uses would be the same as the proposed project, except for the marina. Acreage originally designated for the marina would be applied to acreage set aside for a regional park along Cayetano Creek, bordering the western project boundary of this alternative site.

Land Use, Agricultural, and Planning Issues

The major portion of this alternative site is in agricultural use, with scattered rural residential development (ranchettes) located primarily along May School Road. Ranchettes range in size from two to ten acres. This alternative site is immediately adjacent to the Federal Communication Facility located on a 117-acre site between May School Road and Hartford Avenue. This facility is one of 13 monitoring stations in the United States and the only station in California for the Federal Communication Commission (FCC) (Environmental Sciences Associates, 1990). The Livermore-Pleasanton Rod and Gun Club maintains a shooting range at the base of the hills, east of this alternative site.

5.4 NORTH LIVERMORE ALTERNATIVE SITE

Urbanization of this rural valley would substantially alter existing land uses. Urban development may not be compatible with the FCC facility. The FCC facility would remain and new land uses, such as high density residential or industrial uses, would be located outside a one-mile radius to prevent electrical interference. ~~A setback of this magnitude would significantly reduce the developable acreage on the site. As a mitigation to this land use conflict, the project could be extended into the hills, either west or east of the valley where it is proposed under this alternative. However, hillside development could have numerous impacts related to visual quality, drainage, slope stability, and grading. Low- and medium-density residential uses, sporting greens, and other low-intensity uses could occur within the one-mile radius. Residential uses near the FCC facility may experience intermittent disruption of television and radio receptors of several minutes once a week, the current operating schedule of the facility.~~

TABLE 5.3-3

COMPARISON YEAR 2010 CARBON MONOXIDE CONCENTRATIONS WITH ALTERNATIVES (parts per million)

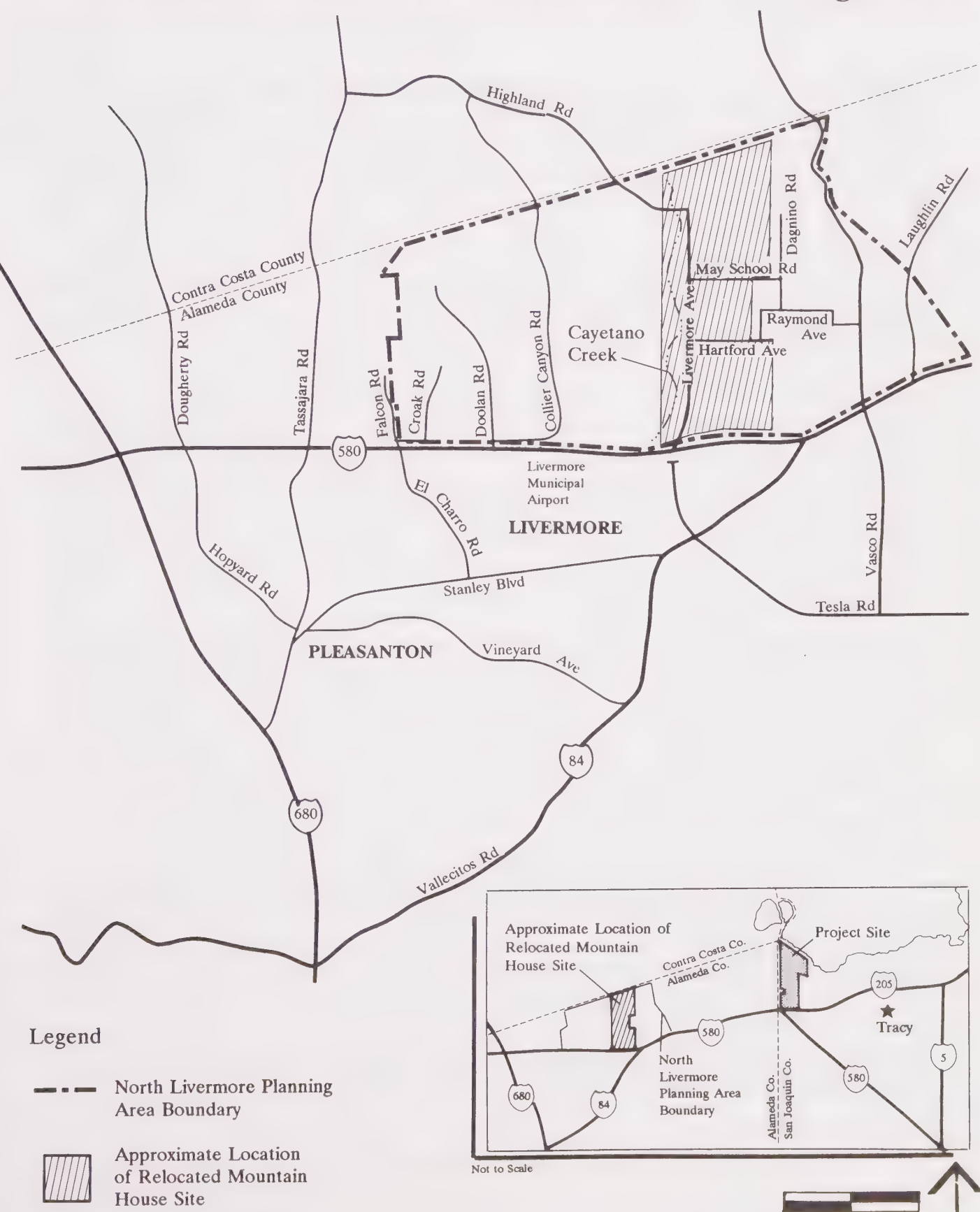
Location	Alternative	1-Hour Average	8-Hour Average
Byron Highway/ Mountain House Road	No Project	6.2	3.7
	Redesigned Project	6.2	3.7
	Reduced Scale	6.2	3.7
	Tracy Alternative Site	6.2	3.7
	N. Livermore Alternative Site	10.3	6.2
Patterson Pass Road/Byron Highway	No Project	5.8	3.5
	Redesigned Project	7.4	4.4
	Reduced Scale	6.6	4.0
	Tracy Alternative Site	5.8	3.5
	N. Livermore Alternative Site	6.2	3.7
Patterson Pass Road/Grant Line Road	No Project	5.3	3.2
	Redesigned Project	6.6	4.0
	Reduced Scale	5.9	3.5
	Tracy Alternative Site	5.2	3.0
	N. Livermore Alternative Site	5.2	3.0
Mountain House Road/Grant Line Road	No Project	6.0	3.6
	Redesigned Project	7.3	4.4
	Reduced Scale	6.7	4.0
	Tracy Alternative Site	6.0	3.6
	N. Livermore Alternative Site	6.3	3.8
Grant Line Road/ Byron Highway	No Project	5.9	3.5
	Redesigned Project	9.3	5.6
	Reduced Scale	8.2	4.9
	Tracy Alternative Site	5.8	3.5
	N. Livermore Alternative Site	6.3	3.8
I-205 east of I- 580	No Project	9.8	5.9
	Redesigned Project	11.5	6.9
	Reduced Scale	11.3	6.8
	Tracy Alternative Site	11.4	6.7
	N. Livermore Alternative Site	11.2	6.7
I-580 west of I- 205	No Project	13.2	7.9
	Redesigned Project	13.7	8.2
	Reduced Scale	13.6	8.2
	Tracy Alternative Site	13.9	8.2
	N. Livermore Alternative Site	13.2	7.9

5.4 NORTH LIVERMORE ALTERNATIVE SITE

This alternative site contains less land currently under Williamson Act contract than the proposed project. Thus, the effect of canceling the contracts for this site would not be as significant as for the proposed project. Agricultural land at this alternative site is primarily used for grazing and dry land crop cultivation such as barley and grain hay. The

NORTH LIVERMORE ALTERNATIVE SITE

Figure 5.4-1



5.4 NORTH LIVERMORE ALTERNATIVE SITE

loss of agricultural land at this site would be less significant than at the proposed project site, if agricultural classifications were considered. The only area within this alternative site designated as Prime Farmland by the State Farmland Mapping Program is a 275-acre area adjoining Cayetano Creek. Twenty-five of these acres are considered "farmlands of Statewide importance" (Environmental Science Associates, 1990). The remaining agricultural lands that would be taken out of production are designed as "Grazing Land."

Urban-rural land use conflicts associated with trespassing, vandalism, and dogs running loose chasing or killing livestock would also occur under this alternative. Because agricultural operations (including aerial spraying) are limited to grazing and dry land cultivation, conflict normally associated with more intense agricultural operations would be less than at the proposed project site.

The North Livermore Planning Area is designated as "Agricultural/Open Space with Urban Development Potential" in the Alameda County General Plan. However, this plan is currently being revised and the designation for this alternative site may change. A northern portion of the this alternative site is shown as a potential hazardous waste residuals repository in the Alameda county Hazardous Waste Management Plan (Environmental Science Associates, 1990). The far southwestern portion of this alternative site would be subject to a Determination of Plan consistency with the Airport Land Use Commission. This portion of the alternative site is within the "height referral area" (e.g., airspace requiring specific building heights) of the Livermore Municipal Airport (Figure 5.4-1).

Zoning for the North Livermore Alternative Site is "Agricultural," with a minimum lot size of 100 acres. This alternative, as the proposed project, would require a General Plan amendment and rezoning to allow new urban uses. Annexation to the City of Livermore would also be likely, therefore, the City's General Plan and Zoning Ordinance would ultimately be applied to this alternative site.

Public Services

Parks and Recreation

This alternative site is within the jurisdiction of the Livermore Area Recreation Park District (LARPD), which is responsible for providing park and recreation facilities in the Livermore area. the LARPD has not identified new park sites in the North Livermore area. Locating the project at this site would require similar acreage set aside for neighborhood, community and regional parks. Existing park and recreational facilities would be affected by development of the alternative site unless adequate on-site facilities are provided.

Schools

The Livermore Valley Joint Unified School District (LVJUSD) would serve this alternative site. Using the LVJUSD student generation rates¹ (Daniels, 1991), the project would generate approximately 4,800

¹Elementary school, 0.30 student/du; middle school, 0.15 student/du; high school, 0.20 student/du.

elementary school students, 2,400 middle school students, and 3,200 high school students. Assuming a school capacity of 850 students, approximately six elementary and three middle schools would be required. Assuming a high school capacity of 1,800 students, two high schools would be needed. A total of 200 acres would be needed at the ten school sites.² Because the generation rates and capacity standards are considerably lower than the LESD, three to five fewer schools would be required at this alternative site as compared to the proposed project site.

Fire and Police Protection Services

A similar level of fire and police protection would be required for the project at this alternative site. A new adequately staffed and equipped fire and police station would be needed. Impacts to these two city services would be similar to the proposed project.

Solid and Hazardous Waste

Solid waste generation at this alternative site would be similar to the estimates provided for the project site. Waste disposal would be at the Altamont Landfill which has limited capacity. Impacts would be similar to the proposed project.

Libraries

A new branch library would be required if development were to proceed at this alternative site. Impacts to the existing County library system are similar to the proposed project.

Public Utilities

Water and Wastewater

The project site is adjacent to, but outside of, the City of Livermore Water Department service area designated by LAFCO. The Water Department receives water from Alameda County Flood Control and Water Conservation District, Zone 7 and California Water Service Company. Water supply sources for the area are the State Water Project, captured local surface flows, and groundwater, which is preserved and enhanced for times of high demand, droughts, and emergencies. Development of the project at this alternative site would generate demand for additional water supply and require extension of water service to the Northern Livermore Planning Area. However, the Zone 7 1987 Master Plan does not include specific plans for increasing supply to the Northern Livermore area. Estimates of projected water demand (without this alternative site development) are close to water treatment and delivery capacity for the next ten years. The **current** ability of Zone 7 to serve development in addition to that planned for in the Master Plan ~~would be limited~~ (Environmental Science Associates, 1990). ~~Since the water supply is limited and there are no plans to extend service to the North Livermore area, there would not be an adequate water supply to serve~~

²Elementary school, 10 acres/school; middle school, 20 acres/school; high school, 40 acres/school.

~~the project.~~ **Several studies and planning efforts are currently being undertaken to evaluate a possible increase of available Zone 7 water supplies. These studies generally explore the importation of additional water in conjunction with development of increased storage capabilities. The status of the future Zone 7 water supply for a project in the North Livermore area is indeterminate at this time.** If water facilities were expanded in the future to meet development demand in North Livermore, annexation into the Livermore Water Department service area, plus expansion of the water service area to the northern boundary of the project site, would be needed, with approval obtained through the Alameda County Local Area Formation Commission (LAFCO) (Environmental Science Associates, 1990).

The project site would be directly adjacent to, but outside of, the service area of the Livermore-Amador Valley Waste Management Agency (LAVWMA). The Livermore Water Reclamation Plant, which would treat wastewater from the project and potentially provide reclaimed water, has 0.728 million gallons daily (MGD) capacity, uncommitted. Treated effluent, not reclaimed for irrigation, is transported through a pipeline to San Francisco Bay. The capacity of this pipeline is also limited, even though a 2.5 MGD expansion is planned in the next two years. Future growth could exceed the existing and planned capacity for treatment and transport of wastewater by LAVWMA (Environmental Science Associates, 1990). Annexation into the LAVWMA service area would be required, with approval obtained through the Alameda County Local Area Formation Commission (LAFCO). The project could be served by the existing plant if it were part of the 6,713 dwelling units that could be served by the remaining capacity. The project would also be served by the City of Livermore's 2.45 mgd share of the export pipeline expansion. ~~However,~~ If wastewater service and export capacity were allocated to other projects with higher development priority, the project could trigger both a Livermore Water Reclamation Plant expansion and an export pipeline expansion by the City. **The Tri-Valley Wastewater Authority is exploring options to increase the treated wastewater export capacity from the Livermore-Amador Valley.** Collection facilities would be needed to support the project at this alternative site, as with the proposed project.

Storm Drainage, Gas, Electricity, and Telephone

The North Livermore Alternative Site is located in the Alameda Creek drainage basin. This basin drains approximately 430,000 acres, including major portions of the Livermore-Amador Valley. Runoff from the alternative site in Las Positas Valley would drain into Cayetano Creek. This creek originates in the Diablo Range and flows south along the west side of the valley. Cayetano Creek discharges into Arroyo Las Positas which runs westerly along I-580. Arroyo Las Positas drains into Alamo Canal which then drains into Arroyo de la Laguna. Arroyo de la Laguna converges with Alameda Creek near the town of Sunol. Alameda Creek eventually discharges into San Francisco Bay near Coyote Hill.

A Federal Insurance Rate Map developed by the Federal Emergency Management Agency indicates that Cayetano Creek is within the 100-year flood zone through most of Las Positas Valley. The Alameda County

Flood Control and Water Conservation District Zone 7 (Zone 7) has projected flow rates in Cayetano Creek based on low-density development in Las Positas Valley and open space to the north and west. Zone 7 has projected flooding in Cayetano Creek even with 15-year storm flows once the Valley is developed (Alameda County Planning Department, 1983). To prevent flooding in Las Positas Valley after development, Cayetano Creek must be improved and a standard storm drainage collection system must be installed in the urban area.

If regional parkland were to be located within that portion of this alternative site located within the 100-year flood zone, development-oriented mitigation measures would be less than those for the proposed project.

The energy demand associated with the North Livermore Alternative Site would be almost identical to the proposed project. Because the climate, population, land use, and construction needs would be the same, significant new electricity and natural gas distribution facilities would be needed, regardless of project relocation within the Central Valley. Under this alternative, gas and electrical lines would have to cross two major canals in the southern portion of the site. Transportation-related energy demands could be slightly reduced under this alternative due to the site's proximity to employment centers and regional-serving retail facilities existing and proposed in the City of Livermore.

The North Livermore Alternative Site would require essentially the same level of telephone service expansion as required for the proposed project. The scope of work required to provide telephone service to a development the size of the project is so large that little advantage would be gained by locating the project near an existing urban center (Boldridge, 1991).

Cultural Resources

One recorded prehistoric archaeological site (CA-ALA-47) is located near Las Positas Creek north of I-580. However, this site may have been destroyed during construction of an access road paralleling I-580 (Environmental Science Associates, 1990). The North Livermore Planning Area is known to have been inhabited by the Costanoan Indians prior to the arrival of the Spaniards. ~~Less than ten percent of the entire North Livermore Planning Area has been studied for the presence of cultural resources.~~ Unrecorded prehistoric archaeological and historic sites could be affected by development at this alternative site, especially along Cayetano Creek and near the foothill/valley interfaces.

Geology, Soils, and Seismicity

This alternative site is located in the Livermore Valley, surrounded by uplands of the Diablo Range. The topography is more varied than that at the proposed project site. Slopes up to 15 percent occur in isolated areas of the alternative site and several landslides have been identified in the hills north of I-580. Most of this alternative site is in the level valley areas of the Las Positas Valley.

The site is located immediately west of the Greenville fault zone. The Greenville fault zone is an active fault and is a Special Study Zone under the Alquist-Priolo Act, as discussed in Section 4.6 of this DEIR. Because this alternative site is located closer to the active faults of the San Andreas fault system, anticipated ground accelerations and effects from groundshaking would be generally greater than those at the proposed project site.

5.4 NORTH LIVERMORE ALTERNATIVE SITE

Development of the project at this site would be associated with potential slope instability impacts (resulting in property damage and exposure of people to hazards) if development were to occur on steep slopes or adjacent to existing landslides. Potential seismic hazards would be greater at this alternative site than at the project site. Valley fill material may be prone to liquefaction during strong groundshaking; ground failure related to movement on the Greenville fault could possibly affect the northeast portion of the alternative site; and groundshaking could trigger landslides in the steep portions of the site.

Development could be designed to avoid or reduce the magnitude of some of these potential geologic and seismic impacts. However, building damage and casualties could result from future earthquakes that would affect the Livermore Valley.

Soils in the Las Positas Valley are primarily Clear Lake clay and Linne clay which have a high shrink-swell potential. Erosion hazard in the southern portion of this alternative site is slight, while the northern portion has no erosion hazards associated with existing soils. The Clear Lake clays and Linne clays are used primarily for growing grain, grain hay, and as pasture land. These soils would be less valuable for row crops in comparison to those at the proposed project site.

Hydrology and Water Quality

Surface Water Hydrology

This alternative site is located within the Las Positas area in the northeast portion of the Livermore Valley. The site is west of the drainage divide formed by Altamont Hills. The Las Positas area receives westward flowing runoff from the Altamont Hills. This runoff is drained southward by Altamont Creek to Arroyo Las Positas, a tributary of Alameda Creek. The major portion the site is drained southward by overland flow and poorly defined channels into Altamont Creek which flows across the southeast corner of the site. The western portion of the site is drained by Cayetano Creek which flows southward to Las Positas Arroyo.

The Federal Emergency Management Agency has identified 100-year flood zones along the Cayetano Creek and Altamont Creek channels through most of the creeks' length within this site. The proposed project at this alternative site would increase runoff and increase the flooding hazards along the creek channels. The flooding hazards associated with levee failure, identified for the proposed project, would not impact this alternative site.

The increased runoff from the developed North Livermore Alternative Site also cause increased erosion of the channel bed and banks of the creeks. During the construction period, the potential for erosion and sedimentation would be increased due to exposure of soil during grading activities. The potential increases in runoff discharge and sedimentation could impact flooding potential and water quality within Arroyo Las Positas and the Alameda Creek drainage basin.

This alternative would not include construction of a marina. Relative to the proposed project, the impacts of marina development on the hydraulics and water quality of the south Sacramento-San Joaquin Delta would not be created by the North Livermore alternative.

Groundwater Hydrology

The North Livermore alternative site is underlain by May and Cayetano subbasins of the Livermore-Amador Valley Groundwater Basin (California Department of Water Resources, 1974). Groundwater is available from shallow alluvial deposits and the underlying Tassajara Formation. Groundwater levels are encountered at depths generally less than 50 feet below the ground surface and less than ten feet in the southeast corner of the site (Alameda County Planning Department, 1983). Regional groundwater flow is directed southward into the Livermore-Amador Valley Groundwater Basin. Elevated levels of total dissolved solids, chlorides, fluoride, and boron have been identified in the groundwater underlying the Las Positas area.

Significant impacts on the groundwater resources of the area could occur with development of this alternative site. Shallow groundwater could adversely affect the performance of foundations and pavements in the southern portion of this site. The option of disposing of treated wastewater by irrigation could result in increased shallow groundwater levels. The application of treated wastewater could further degrade the quality of groundwater underlying the site. The migration of poor quality groundwater into the Livermore-Amador Groundwater Basin would reduce the quality of this regionally significant groundwater resource.

Visual Quality

I-580 is a designated scenic corridor in Alameda county. Development at this alternative site would be visible from I-580 unless it were set back and screened by intervening hills. Livermore Avenue, which traverses the site in a north-south direction, would provide visual access to major portions of this site. The rural ambience of the site is clearly visible from Livermore Avenue (Figure 5.4-2) and would be eliminated with construction of the project.

Fiscal Impacts

Development of the New Town at the North Livermore Alternative Site would shift responsibility for providing services to Alameda County and, if annexed, to the City of Livermore. San Joaquin County would consequently incur no significant fiscal impacts because these impacts, if they occur, would be shifted to Alameda County, the City of Livermore, and the special districts that would serve the project.

Financial Impacts

The extent to which project residents and businesses could afford to carry the capital cost burden associated with development at the North Livermore Alternative Site would depend upon the amount of debt incurred and upon property values. Given that the latter are likely to be higher at the Alameda County location

VIEW OF NORTH LIVERMORE ALTERNATIVE SITE

Figure 5.4-2



- a) View of North Livermore Alternative Site, looking west from Livermore Avenue north of I-580.

because of its more desirable location for a commuting work force, an additional amount of capital expenditures could be carried relative to the proposed project.

Population, Housing, and Employment

Shifting the proposed project from its current site to the North Livermore Alternative Site would improve San Joaquin County's future jobs/housing balance, and would effectively remove much of the housing demand that has stimulated population growth in the southwestern part of San Joaquin County. This shift would slow the development of region-serving retail facilities in the Tracy area. Sales of residential units in the City of Tracy would likewise be reduced. The extent of this latter reduction, however, is effectively the same irrespective of whether housing demand is captured west of Altamont Pass or at the proposed project site.

The effect of this alternative on San Joaquin County as a whole would be to improve the countywide jobs to housing ratio. New housing would be constructed closer to Alameda County employment centers, such as Bishop Ranch and Hacienda Business Park. The probable extent of this change is difficult to quantify as projected population-serving employment would also be reduced in a corresponding, but not necessarily proportionate, manner within San Joaquin County.

Although housing prices at this alternative site would be higher than at the proposed project site, average commute distances would be reduced. The sum of housing costs and journey-to-work costs could be relatively equivalent across the two communities.

Public Health and Safety

Since the project would be served by off-site water and wastewater treatment by existing agencies, the potential impacts to public health due to untreated water, inadequate water and wastewater treatment, and inadequate water and wastewater sludge disposal would not occur. Other potential public health and safety impacts related to potential exposure to hazardous materials would be similar to the proposed project.

Biological Resources

This site has very few conflicting wildlife interests when compared to either the Mountain House or Tracy alternative sites. The agriculture in this area consists of "dry farming" an annual oat hay crop with heavy cattle grazing following the harvest. This sort of land use has essentially eliminated most rodent populations from the area while promoting that of one, the California ground squirrel. The squirrel population is used by golden eagles in the area, but since overgrazing is so prevalent throughout the greater Altamont Hills area, a good case can be made for the abundance of nearby alternative foraging sites for this species of special concern.

The sightings of the California tiger salamander are to the east of the proposed development site, and the one San Joaquin kit fox den site in the area is well to the west. The primary area of concern is the

Springtown Valley Sink Scrub plant community with its several protected plant species. The present eastern border of the development extends within the western border of this unique plant association, and the vast majority of the project site is within the recommended buffer zone for the protection of the Valley Sink Scrub community resource. With a shift of development to the west as far as possible and the design of some creative and biologically workable enhancements of the existing sink area, this alternative would be quite biologically feasible and is the best of the alternatives under consideration.

Transportation

The North Livermore Alternative Site would generate the same total number of vehicle trips as the proposed project, but would concentrate more of the trip-making activity in proximity to existing employment center. Total vehicle-miles traveled would be less than with the proposed project due to the proximity of employment. Compared to conditions with the proposed project, total daily 2010 freeway volumes would be about 10 percent lower at the Altamont Pass (166,000 ADT compared with 186,000 ADT) and up to 13 percent lower on I-205 (102,000 to 139,000 ADT, compared with 115,000 to 144,000 ADT). However, the need for substantial freeway improvements on I-205 and I-580, including additional lanes, would be the same, although the level of service would be slightly better. Daily traffic volumes would be about three percent greater on I-580 in the Livermore area compared with the proposed project (233,000 ADT compared with 227,000 ADT).

Air Quality

This alternative would have significant local and regional air quality impacts during construction. The amount and duration of construction activities would be similar to that of the proposed project, but they would occur in a neighboring air basin. Mitigation measures for construction dust control would be identical to those for the proposed project.

Regional emissions for this alternative from vehicle travel and residential sources have been calculated and are shown in Table 5.3-2. While regional emissions under this alternative are less than those of the proposed project, the effect of these emissions would be considered significant and adverse. These emissions would occur primarily in the San Francisco Bay air basin, but because of transport from this basin to the San Joaquin Valley air basin, these emissions would also affect the local air basin. Mitigation measures for regional emissions would be identical to those for the proposed project.

The potential for local air quality-related land use conflicts between proposed residential areas and existing agricultural uses and the potential for conflicts between industrial lands and residential areas within the site would be dependent on the arrangement of uses within the site and so cannot be predicted at this time.

The carbon monoxide impacts of this alternative have been calculated and are shown in Table 5.3-3 for locations near the Mountain House site. Impacts are generally lower than the proposed project, and in all

cases concentrations remain below the applicable State and Federal standards. Greater impacts may occur on streets and roadways closer to the North Livermore Alternative Site, but detailed traffic analyses needed to predict carbon monoxide concentrations at these locations are not available. The significance of carbon monoxide impacts within North Livermore are unknown.

Noise

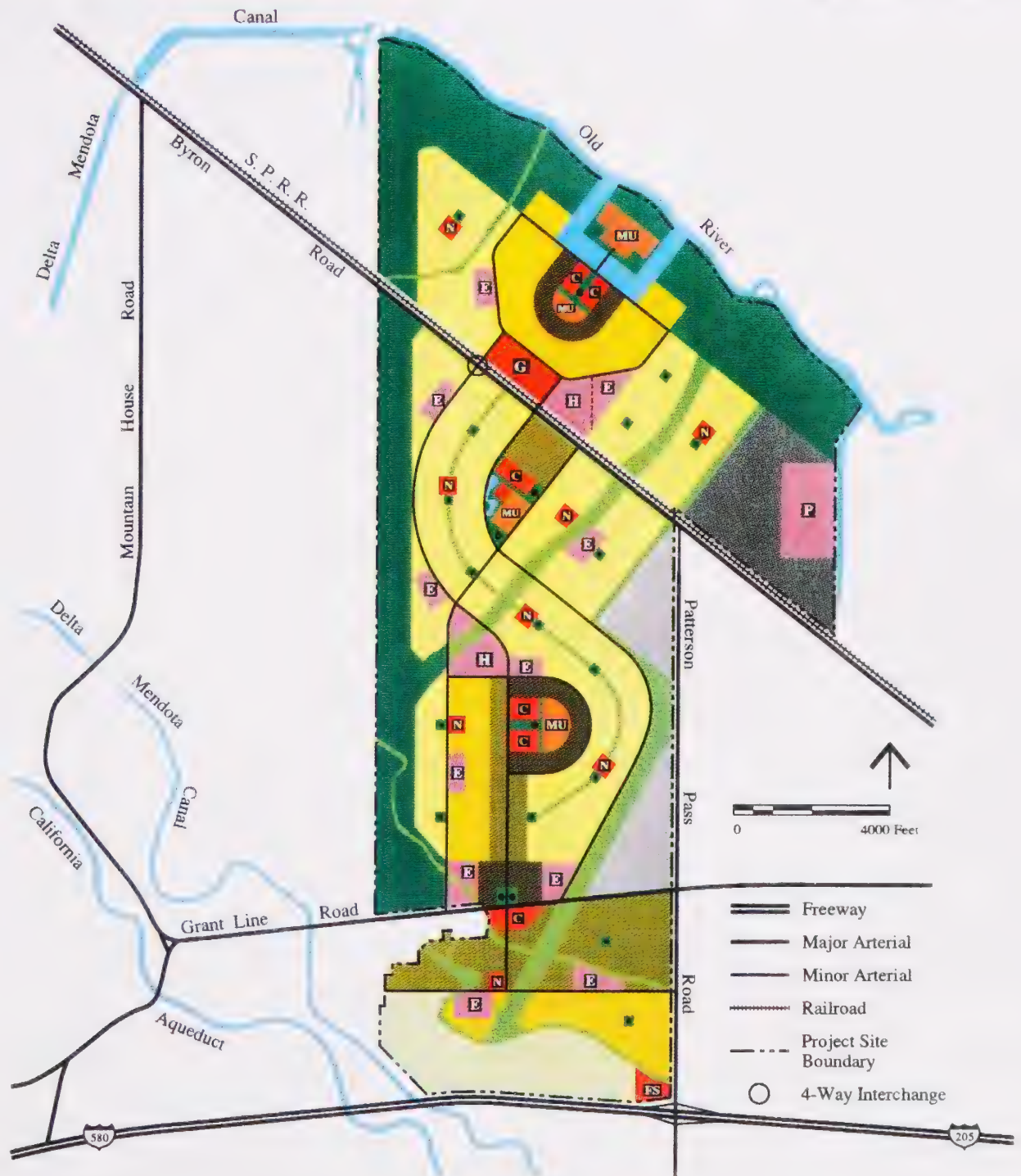
Under this alternative, the main access road to the site would be North Livermore Avenue. The portion of the site near I-580 would be severely impacted by traffic noise. Noise sensitive land uses proposed to be located adjacent to North Livermore Avenue could also be impacted by future traffic. Most of the area proposed for development under this alternative is currently vacant. Development in this area would significantly increase the noise exposure of the site. Scattered residences throughout the North Livermore Alternative Site would be exposed to significantly higher noise levels.

5.5 REDESIGNED PROJECT

PROJECT OBJECTIVES

The Redesigned Project Alternative consists of a major reconfiguration of the land use pattern within the project site. This alternative was developed by the EIR team in response to many impacts that were identified for the proposed project. Instead of one town center, as identified for the proposed project, this alternative includes four town centers, or Village Units, each with its own distinctive character (Figure 5.5-1). The Redesigned Project alternative was developed to achieve the following objectives:

- To allow for a phased development strategy that ensures the successful conversion of land into discrete Village Units, each of which is a complete mixed-use development (i.e., polycentric development pattern as shown in Figure 5.5-2);
- To enable each Village Unit to achieve an appropriate balance of residential densities with civic/commercial uses and an adequate allocation of public facilities (i.e., recreational, open space, and school facilities);
- To focus development on the successful completion of each Village Unit which, in case of adverse economic circumstances, could protect surrounding agricultural lands and minimize the unnecessary completion of infrastructure (e.g., roads and utilities);
- To distribute higher residential densities around four Village Core Centers to provide a greater feasibility of internal public transit usage and to improve pedestrian access;



RESIDENTIAL

- Low Density
- Medium Density
- Medium High Density
- High Density

COMMERCIAL

- N Neighborhood
- C Community
- G General
- FS Freeway Service
- MU Mixed Use

PUBLIC

- P Public or Institutional
- E Elementary School
- H High School

INDUSTRIAL

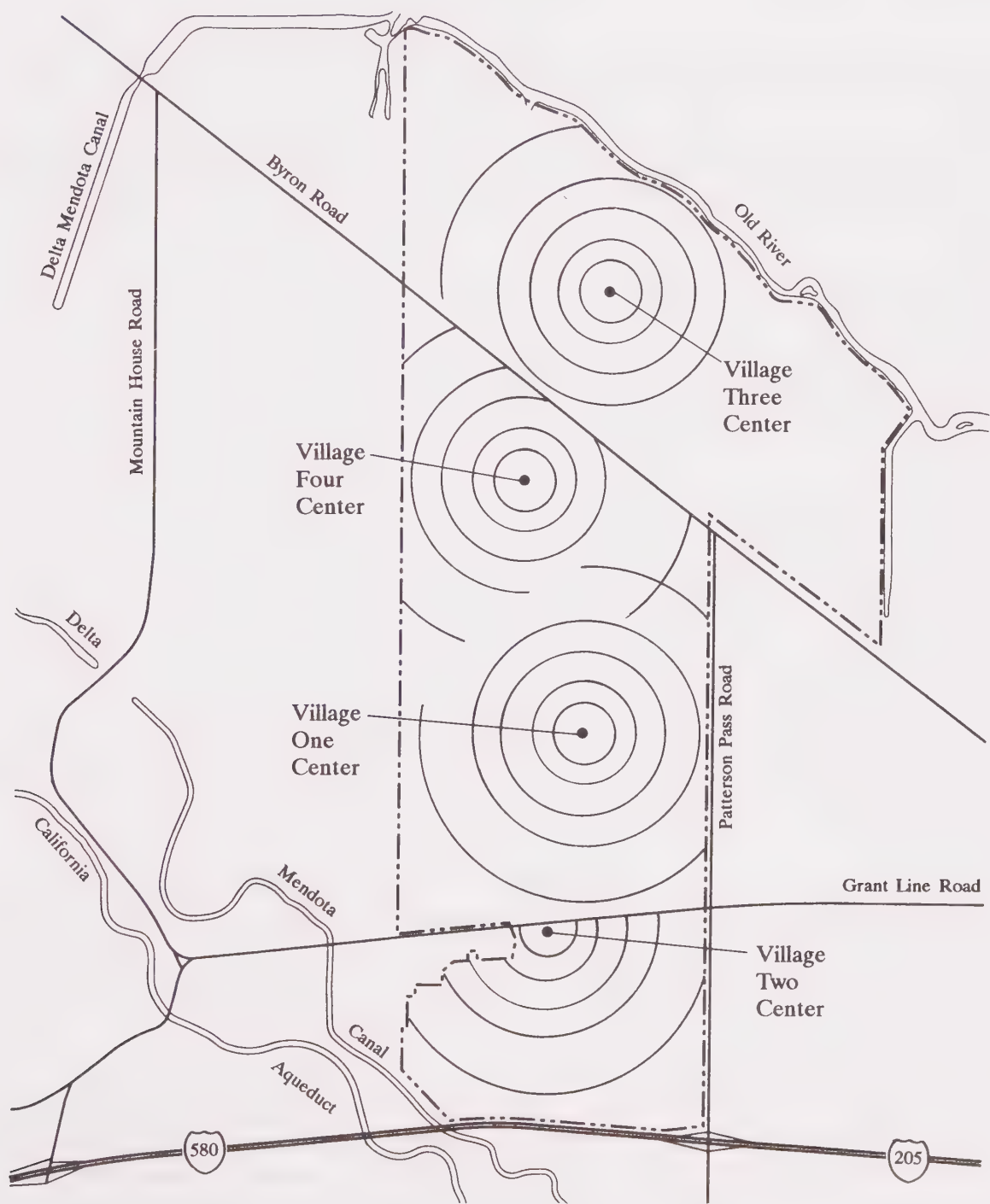
- Limited
- General

PARKS / OPEN SPACE

- Neighborhood
- Regional
- Other Open Space

AGRICULTURAL

- General



Note: Outside lines of circles shows distance of 4,000 feet (0.75 miles).
Refer to Figure 5.5-1 for proposed land use within each village unit.



BASELINE

5.5 REDESIGNED PROJECT

- To focus the primary civic and commercial activity at the Village Core Center, with access to a majority of residential units within one-quarter to one-half mile;
- To allocate higher residential densities along major existing transportation corridors on the southern portion of the project site (Village One) to facilitate commuter-oriented, external transit usage;
- To design a circulation system that combines curvilinear minor arterials with a grid system of collector streets, allowing for an even distribution of traffic throughout the site;
- To clearly separate industrial access from commercial and residential access. This separation can be easily accomplished by dedicating Patterson Pass Road as the only thoroughfare connecting the I-205/Patterson Pass interchange with the on-site industrial areas;
- To maintain a separation between on-site industrial and residential areas by open space corridors;
- To preserve and restore (as open space corridors) all existing, on-site water features such as Mountain House Creek, Dry Creek, and existing agricultural canals, which would continue to serve adjoining agricultural lands;
- To eliminate development from the majority of the 100-year floodplain along Old River;
- To buffer on-site residential areas from aerial pesticide applications on adjoining agricultural lands west of the project site;
- To connect neighborhood parks by a continual open space corridor, and to include numerous open space corridors throughout the project site for an integrated pedestrian and bicycle system; and
- To provide a visual and noise buffer on the southern portion of the project site adjoining I-205.

PROJECT DESCRIPTION

Each Village Unit of this alternative includes a central commercial/civic core that is accessible within approximately one-half to two-thirds mile from surrounding residential neighborhoods. The medium to high-density residential areas are generally no more than one-quarter mile from commercial centers. Each Village Unit is approximately 600 to 1,000 acres in size. The Redesigned Project is based on a polycentric development pattern (Figure 5.5-2).

Residential uses would range from low-density residential at the edges of the village centers to high-density residential near the commercial centers of three of the Village Units (Figure 5.5-1). The Village Unit just

south of Byron Road would include medium-high-density residential areas as its most dense residential category. Almost 57 percent of the total residential acreage (2,031 acres) would be low-density, which assumes an average of 4.5 units per acre (Table 5.5-1). In comparison to the proposed project, the Redesigned Project Alternative would have 367 fewer residential acres (Table 5.5-1), and 1,106 fewer residential units (Table 5.5-2).

Commercial uses would include all the same designations as the proposed project with the exception of office commercial designations which would not occur under this alternative. A total of eight neighborhood commercial areas are located throughout the project site, often adjacent to neighborhood parks (Figure 5.5-1). The four village centers each include community commercial designations. The most distant low-density residential neighborhood would be one mile from the nearest community commercial area, while the majority of residences would be within one-half mile from commercial uses.

Total commercial acreage of this alternative (211 acres) would be about 77 percent of that proposed for the project (275 acres) (Table 5.5-1). However, the floor area ratio for commercial areas under this alternative could be greater than the proposed project and could result in similar square footage of commercial uses with less surface parking. Instead, parking could occur within commercial structures. Each Village Unit would center on a 14-acre to 20-acre community commercial area. Three Village Units would have a mixed-use commercial area adjacent to the community commercial area where office, civic, and retail uses could be combined within the commercial/civic core (Figure 5.5-1). A 33-acre general commercial area would be located along Byron Road where commercial uses could serve a wider geographic area than the proposed project (Figure 5.5-1). An 11-acre freeway-service commercial area would be provided at the intersection of Patterson Pass Road and I-205 (Figure 5.5-1).

Industrial uses of this alternative would be located within limited and general industrial areas along Patterson Pass Road and Byron Road, which are existing major arterials (Figure 5.5-1). In this way, industrial traffic would not have to cross internal residential and commercial neighborhoods. The total acreage for industrial use (384 acres) would be approximately 90 percent of that proposed for the project (427 acres) (Table 5.5-1).

The public area set aside for water and wastewater facilities (50 acres) would be located at the northeastern edge of the developed area, north of Byron Road and at the eastern edge of a general industrial area (Figure 5.5-1). This location is almost identical to that of the proposed project.

A total of 11 elementary schools would be located throughout the project site, in locations central to residential neighborhoods (Figure 5.5-1). Each of these school sites would be approximately 14 to 15 acres in size. Two elementary schools would be immediately adjacent to high schools allowing for an opportunity to share some recreational and administrative facilities by both schools. The proposed high schools would be located along minor arterials (Figure 5.5-1).

TABLE 5.5-1

REDESIGNED PROJECT AS COMPARED WITH PROPOSED PROJECT
(acres)

Land Use	Redesigned Project	Proposed Project
<u>Residential</u>		
Low density ¹	1,154	1,202
Medium density ²	412	995
Medium-high density ³	327	164
High density ⁴	138	37
Total Residential	2,031	2,398
<u>Commercial</u>		
Community commercial	63	62
Town center/mixed use	64	43
Neighborhood commercial	40	47
General commercial	33	36
Freeway service	11	27
Office commercial	0	60
Total Commercial	211	275
<u>Industrial</u>		
Limited industrial	182	317
General industrial	202	110
Total Industrial	384	427
<u>Schools</u>		
Elementary, middle	145	180
High school	64	80
Total Schools	209	260
<u>Agricultural</u>		
General Agriculture	232	0
Urban Agriculture	--	0
Total Agriculture	232	0
<u>Open Space and Recreation</u>		
Neighborhood parks	63	62
Community parks	--	129
Regional parks	976	70
Resource conservation	--	40
Other open space		
• Golf courses	--	352
• Marina	63	60
• Landscape easements	365 ⁵	37
Total Open Space and Recreation	1,467	750

Table 5.5-1 - continued

Land Use	Redesigned Project	Proposed Project
Public Utilities and Roads		
Sewer and waste utility area	72	50
Water treatment plant ⁶	--	23
Existing streets ⁷	--	40
Major roads and overpasses ⁸	--	427
Existing railroad	61 ⁹	17
Total Utilities and Roads	133	557
TOTAL ACRES	4,667	4,667

¹ Low-density residential development assumes 4.5 dwelling units per acre.

² Medium-density residential development assumes 8 dwelling units per acre.

³ Medium-high-density residential development assumes 12 dwelling units per acre.

⁴ High-density residential development assumes 18 dwelling units per acre.

⁵ Other open space for the Redesigned Project includes acreage along Mountain House Creek that could be used for a golf course.

⁶ The water treatment plant acreage is included in the 50 acres of sewer and waste utility area.

⁷ Existing roads for the two alternatives (40 acres) are included in other land use acreages.

⁸ Proposed road acreages are not separated out for the two alternatives, but are included in other proposed land use designations.

⁹ The 60.6 acres include the right-of-way along the railroad where no land uses are proposed. The width of the right-of-way for this alternative was wider than that assumed for the proposed project.

Source: BASELINE Environmental Consulting and the SWA Group.

TABLE 5.5-2

RESIDENTIAL POPULATION FOR REDESIGNED PROJECT ALTERNATIVE VERSUS PROPOSED PROJECT

Land Use	Acres		Total Units		Total Population	
	Redesigned Project	Proposed Project	Redesigned Project	Proposed Project	Redesigned Project	Proposed Project
Low density ¹	1,154	1,202	5,193	5,409	16,202	16,876
Medium density ²	412	995	3,296	7,960	8,899	21,492
Medium-high density ³	327	164	3,924	1,968	3,936	3,936
High density ⁴	138	37	2,484	666	4,968	1,332
TOTAL	2,031	2,398	14,897	16,003	34,005	43,636

¹ Assumes 3.12 persons per dwelling units and 4.5 dwelling units per acre.

² Assumes 2.7 persons per dwelling unit and 8 dwelling units per acre.

³ Assumes 2.0 persons per dwelling unit and 12 dwelling units per acre.

⁴ Assumes 2.0 persons per dwelling unit and 18 dwelling units per acre.

Source: BASELINE Environmental Consulting.

5.5 REDESIGNED PROJECT

This alternative includes retention of 232 acres in general agricultural use at the southern portion of the project site, immediately north of I-205 (Figure 5.5-1), to serve as a visual and noise buffer zone between the heavily-traveled freeway and urban development to the north. In addition, existing irrigation canals are proposed for protection in the southern portion of the project site (Figure 5.5-1). These canals could serve as open space corridors between developed areas and could provide an open water source for use by wildlife. Retention of the most southern on-site canal would also enable continued service to adjoining acreage within the jurisdiction of the Byron-Bethany Irrigation District.

A 976-acre regional park would be located along Old River and the western boundary of the project site (Figure 5.5-1). This park would meet the regional park demands of the project, with an extra 29 acres to partially alleviate the existing shortage of regional parkland within the County. The regional park would also provide a buffer between off-site agricultural operations and on-site development. A regional park along Old River would protect the 100-year floodplain and provide access to a valuable open space water feature. This park could include boat access to Old River and approximately seven miles of continuous pedestrian, bicycle, and horse trails along Old River and the site's western boundary.

A 66-acre marina is included in this alternative, east of the location of the marina shown for the proposed project (Figure 5.5-1). The marina area would be designated for mixed-use commercial uses and would serve as an anchor amenity for this portion of the project site. Public uses such as restaurants and recreation-oriented commercial uses could be located in this portion of the project site.

Open space corridors would also be provided along Mountain House Creek, Dry Creek, some on-site irrigation canals, and the transmission line right-of-way (Figure 5.5-1). Narrow landscaped buffers are proposed between industrial areas and residential neighborhoods (Figure 5.5-1). The Redesigned Project Alternative also includes a continuous open space corridor linking neighborhood parks through the center of the project site and residential areas with commercial/employment centers. The corridor could follow a roadway but would need to be wide enough to adequately serve pedestrians and bicyclists. All of the proposed open space corridors could have a system of trails that would provide numerous linkages between developed areas. The open space corridor along Mountain House Creek would be wide enough to include a golf course and still preserve its open space/wildlife value as well.

A total of 22, approximately two- to three-acre neighborhood parks would be located throughout residential neighborhoods (Figure 5.5-1). Unlike the proposed project, these parks would be placed away from schools so that they could be distinct neighborhood-serving facilities. However, this separation of uses would be contrary to County policy.

Six new minor arterials are proposed within the developed areas of this alternative. Major access is expected to be from Grant Line Road and Byron Road (Figure 5.5-1). The curvilinear pattern of the major north-south arterials would provide viewing corridors for northwest-bound motorists towards the Mt. Diablo range

to the west of the project site. Patterson Pass Road is proposed to be used to primarily access on-site industrial areas. Three north-south minor arterials are proposed. Two of these arterials would join Grant Line Road with the developed area north of Byron Road. One arterial would include a four-way interchange allowing access to Byron Road and the area north of Byron Road, crossing the railroad track. The second arterial would include an overpass that would access the northern portion of the project site but would not allow access to Byron Road. North of Byron Road, a minor arterial "loop" would encircle the village center and connect with a bridge to the island surrounding the marina (Figure 5.5-1).

East-west minor arterials would be developed at the outer edges of the Village One center and south of Grant Line Road. One of the north-south arterials would intersect Grant Line Road and the east-west arterial to the south (Figure 5.5-1).

Bicycle paths could follow all the proposed minor arterials. Additional bicycle, pedestrian, and horse trails could be developed within the areas proposed as regional parkland and open space corridors that would be easily accessible from residential neighborhoods. Public transit stops are expected to be located along minor and major arterials within and at the edge of the project site. A park-and-ride lot could be provided within the limited industrial area at the junction of Patterson Pass Road and Grant Line Road.

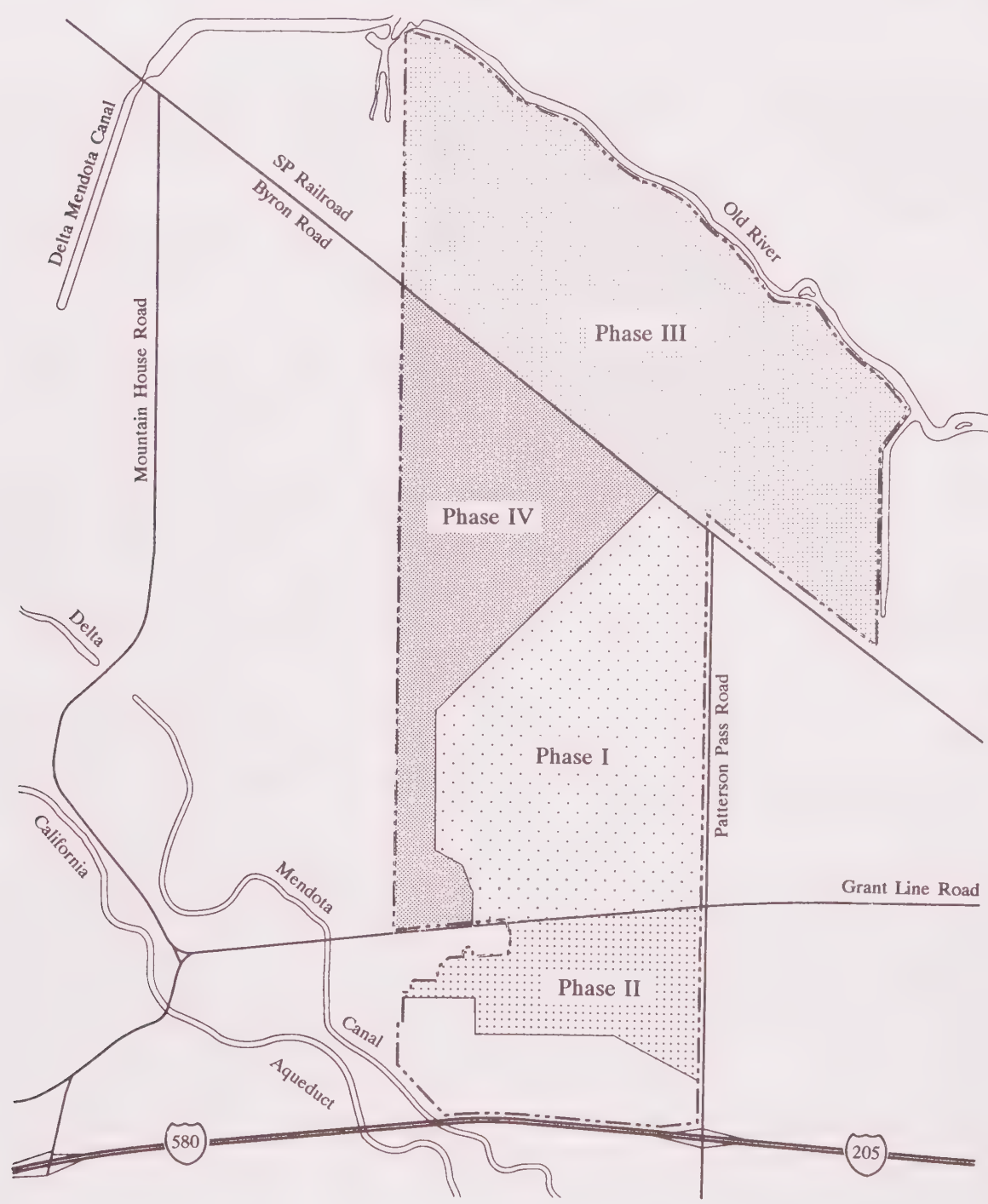
PHASING

This alternative could be developed in four distinct phases centered on individual Village Units (Figure 5.5-3). The first phase would be concentrated on Village One with buildout of both commercial and residential uses north of Grant Line road and south of Mountain House Creek.

Additional phases should occur outward from Village One to allow efficient extension of utility lines and roads. Therefore, buildout of Village Two would occur in Phase II, with development south of Grant Line Road and north of I-205. Phase III would include development of the marina and all uses north of Byron Road, connecting with Phase I near the intersection of Patterson Pass Road and Byron Road (Figure 5.5-3). By the time of development of Phase III, enough development would have taken place in Phases I and II to adequately finance development of the regional park and marina. In addition, an adequate population base would exist to support commercial uses near the marina. Phase IV, the last phase, would include Village Four north of Mountain House Creek and south of Byron Road. In addition, this phase would include completion of the regional parkland at the western edge of Village One.

PROJECTED POPULATION AND EMPLOYMENT

At full buildout, this alternative would have a residential population of 34,005 assuming the following: an average of 3.12 persons per household for low density residential areas; 2.7 persons per household for medium-density residential areas; and, 2.0 persons per household for medium-high density and high-density residential areas (Table 5.5-2).



Approximately 15,450 jobs (compared to 19,880 jobs for the proposed project) would be created by full buildout, using the assumptions regarding jobs per acre for each land use as shown in the footnotes to Table 5.5-3. More than 92 percent of the projected employment would be related to proposed commercial and industrial development (Table 5.5-3).

TABLE 5.5-3

**EMPLOYMENT FOR REDESIGNED-PROJECT ALTERNATIVE
COMPARED WITH PROPOSED PROJECT**

Land Use	Acres		Total Jobs	
	Redesigned Project	Proposed Project	Redesigned Project	Proposed Project
<u>Commercial</u>				
Community commercial ²	63	62	1,512	1,488
Town center/mixed use ³	64	43	3,264	2,193
General commercial ³	33	36	792	864
Freeway service ²	11	27	264	648
Neighborhood commercial ²	40	47	960	1,128
Office commercial ⁴	0	60	0	2,640
Total Commercial	211	275	6,792	8,961
<u>Industrial</u>				
Limited industrial ⁵	182	317	4,732	8,242
General industrial ⁶	202	110	2,828	1,540
Total Industrial	384	427	7,560	9,782
Total Schools⁷	209	260	523	650
Total Recreation⁸	1,102	653	220	122
Total Utilities⁹	72	73	360	365
Total	1,938	1,840	15,455	19,880

¹ Does not include construction-related employment, agriculture-related employment, or residents working in home.

² Assumes 24 jobs per acre.

³ Assumes 51 jobs per acre.

⁴ Assumes 44 jobs per acre.

⁵ Assumes 26 jobs per acre.

⁶ Assumes 14 jobs per acre.

⁷ Assumes 2.5 jobs per acre.

⁸ Assumes 1 job per 5 acres of park. The acreage for marina and landscape easements is not included.

⁹ Assumes 5 jobs per acre for water and sewage treatment acres.

IMPACTS AND MITIGATION MEASURES

Land Use, Agricultural, and Planning Issues

The Redesign Project Alternative incorporates many of the mitigation measures recommended in the Land Use Section of Chapter 4 (Section 4.1) to reduce urban/rural conflicts. Buffer areas are provided, particularly along the western boundary and along I-205. Total number of acres removed from agriculture would be essentially the same as the proposed project except for the 232 acres at the south end of the site adjacent to I-205. The buffer along the western boundary would discourage development from encroaching into Alameda County and affecting additional agricultural lands.

As for the proposed project, the Redesign Project Alternative would require a General Plan Amendment and rezonings for all of the site except the 232 acres where agricultural uses are proposed to remain. This alternative would conflict with policies of the existing General Plan and the Draft General Plan 2010 regarding protection of prime agricultural land. However, unlike the proposed project, this alternative would be consistent with draft policies regarding provision of identifiable neighborhoods and neighborhood commercial areas and inclusion of buffer areas to maintain a distinct community identity.

This alternative would incorporate many of the mitigation measures identified for Impact 4.2-1 in Chapter 4 of the Draft EIR. These mitigation measures address changes to the proposed land use plan which would result in greater conformance with County Policies. As with the proposed project, this alternative could redirect growth away from the City of Tracy and existing communities in the Tracy Planning Area.

Public Services

Parks and Recreation

This alternative includes significantly more open space than the proposed project. Sixty-three acres of neighborhood parks, 976 acres of regional parks, a 63-acre marina and 369 acres of landscape easements (which include acreage along Mountain House Creek that could be used for a golf course) would be a part of this alternative. According to San Joaquin County standards, as population of 34,005 would require 102 acres for neighborhood and community parks. This 39-acre deficit could have a negative impact on existing facilities in the neighboring communities. However, unlike the proposed project, the acreage planned for regional parks is more than adequate by County standards. Some of the 29 surplus acres could be used for community parks. If golfing facilities were not developed, the demand for golf courses would impact neighboring facilities. However, this alternative would include adequate acreage along Mountain House Creek for a golf course. The impacts of the marina would be the same as those of the proposed project.

Schools

Impacts would be the same as those of the proposed project. According to school officials from the Tracy Joint Union High School District, it is undesirable to locate high schools in close proximity to commercial

areas. The high school in this alternative, located north of Byron Road, is located adjacent to a commercial area.

Fire and Police Protection Services

Impacts would be the same as those of the proposed project.

Solid and Hazardous Waste

Impacts would be similar to those of the proposed project. Solid waste generated by the 34,005 residents would amount to about 52,870 tons per year at full buildout without waste reduction, or about 73 percent of that generated by the proposed project. A 25 percent reduction in tonnage would result in 39,655 tons per year and 50 percent reduction would result in 26,435 tons per year at full buildout. About seven percent less household hazardous waste would be generated in comparison to the proposed project due to the reduced number of residential units.

Libraries

Impacts on libraries would be the same as those of the proposed project.

Public Utilities

Water and Wastewater

The Redesigned Project Alternative would create less water demand than the proposed project. The population of this alternative is about 22 percent lower than the proposed project. Acreage used for commercial uses is about 23 percent lower and acreage used for industrial uses is about 10 percent lower for the Redesigned Project Alternative than the proposed project. However, open space, agricultural, and recreation lands are more than twice that of the proposed project. Agricultural use of 232 acres of on-site land is retained. Nevertheless, the overall water demand of this alternative would be slightly less than that of the proposed project.

Although it appears that the overall water demand for the Redesigned Project Alternative would be slightly less than the proposed project, the same type of water supply impacts exist for this alternative as for the proposed project. It is possible that: 1) water demand would exceed supply due to development outside of BBID boundaries; 2) there could be an absence of a year-round water supply; and 3) institutional issues for the change of part of BBID's service area from agricultural water use to municipal/industrial use may not be resolved. These impacts could lead to overdrafting the local groundwater resources which would be a significant impact.

This alternative would result in reduced infrastructure construction impacts due to the proposed phasing plan. The Redesigned Project Alternative proposes extending infrastructure to support Village Units as they are

developed. This phasing may involve constructing the wastewater treatment plants during Phases I and III, like the proposed project, but installing collection pipelines as the Village Units are developed. The collection infrastructure would be installed when needed, instead of in advance of the development, resulting in fewer construction impacts than the proposed project. The proposed project includes phasing, but some areas for development of Phases II and III are located in projects throughout the project site, requiring a significant amount of the wastewater collection system to be constructed in Phase I.

The potential impacts associated with public health hazards for the Redesigned Project Alternative would be the same as for the proposed project in the areas of water treatment, inadequate water and wastewater treatment, inadequate water and wastewater sludge disposal, inadequate reclamation system, and releases of hazardous materials that could adversely impact water resources and public health.

The Redesigned Project Alternative would result in generation of reduced wastewater flows compared to the proposed project, due to lower levels of population and commercial and industrial development. Thus, smaller wastewater collection, treatment, and disposal facilities would be required. However, similar wastewater impacts could occur for the Redesigned Project Alternative as for the proposed project. These impacts include the potential to discharge to Old River, which could result in degradation of surface waters, and the potential development of an inadequate wastewater treatment system, which could result in discharge of partially-treated effluent into the reclamation system. The potential for these impacts would be reduced, but would still be significant for the Redesigned Project Alternative. As with the proposed project, wastewater reclamation and land disposal should be incorporated with the Redesigned Project Alternative.

The Redesigned Project Alternative includes a regional park along Old River and approximately 370 acres of landscape easements in the form of open space corridors with an integrated pedestrian and bicycle system. This land use proposal creates an increased opportunity for the reuse of treated wastewater through irrigation. The opportunity to use reclaimed water for irrigation would be a beneficial impact of this alternative.

Storm Drainage, Gas, Electricity, and Telephone

Storm Water Drainage

The storm water drainage system necessary for the Redesigned Project Alternative would be slightly less extensive than that for the proposed project. This alternative includes 232 acres of agricultural land and an additional 717 acres of open space that is not in the proposed project. The resulting decrease in total paved area from the proposed project would reduce the volume of storm water runoff on the order of ten percent. The storm water collection facilities would not have to be extended to the edges of the project site as in the proposed project, because the land along the northern, western, and southern boundaries of the project site would be left as agricultural land or open space. New structures such as diversion ditches and storm water detention basins, and improvements such as an enlarged Mountain House Creek channel, would still be

required for the Redesigned Project Alternative. All the significant impacts and mitigation measures identified for the proposed project also apply to the Redesigned Project Alternative in terms of storm water drainage.

Electricity and Gas

This alternative would also require PG&E to substantially increase its distribution capacities in the area. The residential energy demand projected for the Redesigned Project Alternative is 120 million kwh per year of electricity and 7.5 million therms per year of natural gas (a decrease of 8 million kwh per year and 0.5 million therm per year, respectively, in comparison to the proposed project). Energy demand for commercial and industrial uses, street lighting, and construction would also be less for the Redesigned Project Alternative, but cannot be quantified at this time. Vehicular traffic within the project site and associated fuel requirements are expected to be less for this alternative because of the proximity of village centers to most of the residences. More pedestrian traffic is anticipated between commercial centers and most residences since the centers would be within comfortable walking distance from the majority of the houses. This alternative would generate about 15 percent fewer trips than the proposed project.

The Redesigned Project Alternative does not prohibit development in the easements for the buried natural gas lines and the 60 kV Weber-Herdlyn electrical transmission line. As for the proposed project, restrictions on construction activities within easements must be considered, and approval from PG&E would need to be obtained prior to construction.

Telephone

Major new telephone facilities would be required for the Redesigned Project Alternative. Although the acreage and population of this alternative are less than the proposed project, significant expansion of telephone service would still be necessary. Telephone service expansion for the Redesigned Project Alternative would essentially be the same as for the proposed project.

Cultural Resources

Impacts to historic and prehistoric resources are expected to be similar to the proposed project. However, impacts may be slightly reduced due to the increased area proposed for open space under this alternative.

Geology, Soils, and Seismicity

The Redesigned Project Alternative would have geologic impacts similar to the proposed project. This alternative would have impacts due to: 1) construction on soils with high shrink-swell potential, 2) soil erosion, and 3) the potential effects of strong groundshaking during earthquakes within the region. The exposure of people to the seismic hazards would be slightly reduced relative to the proposed project because the Redesigned Project Alternative would reduce the number of residential units (and population) at the project site. This alternative would replace residential and commercial land uses along Old River levee with

open space. This change in land use would reduce the potential impact of settlement of structures built in areas underlain by low-density clays found along the river. Although structures would not be built in the area now designated as the 100-year flood zone, persons using the open space could be injured and park property could be damaged by flooding in the event of levee failure. Significant grading would still occur during the implementation of the Redesigned Project Alternative, which could result in erosion and sedimentation impacts.

Hydrology and Water Quality

The Redesigned Project Alternative would reduce the flooding hazards at the project site by replacing residential and commercial development within the 100-year flood zone, proposed by the project, with a regional park. Catastrophic flooding of the park area could result from levee overtopping or levee failure, potentially causing human injury or property damage. Damage to the marina proposed in the Redesigned Project Alternative could also occur during flooding. Flooding of the area south of the levee could also still occur from flood flows carried in Mountain House Creek. Channel improvements along Mountain House Creek would be needed to convey the runoff during flood flows.

Runoff from the site would be slightly reduced by the reduced amount of development and construction of impervious surfaces proposed by the Redesigned Project Alternative. The change would not significantly affect flows in the creek because: 1) the majority of runoff in the creek is delivered to the project from upstream areas in the Mountain House Creek watershed; and 2) it is assumed that the storm water management system would incorporate a storm water retention pond system that would reduce the rate of runoff delivered to the creek in storms.

The Redesigned Project Alternative includes a marina to be constructed at a position east of the location of the flow control structure proposed by the Department of Water Resources (DWR). A marina located east (upstream) of the barrier would not be subject to the full tidal fluctuation. The barrier would attenuate the amplitude of the tides, reducing the tidally-driven flows within the marina. Reduced tidal flow in the marina could result in reduced circulation in the marina, potentially degrading water quality. However, the U-shape of the marina would promote circulation in the marina relative to the single-outlet marina designed for the proposed project.

The potential benefit of increased intertidal velocities west of the barrier (i.e., as described for the operation of the marina west of the DWR barrier proposed by the project) would not occur with construction of a marina east of the barrier proposed by the Redesigned Project Alternative. Accessing the central Delta from a marina east of the barrier would require that boats move through a lock at the DWR barrier, impacting operations and possibly the design of the structure.

Visual Quality

The Redesigned Project Alternative would significantly alter the existing rural visual quality of the site as seen from local roads (Figures 5.5-4 and 5.5-5). However, this alternative proposes the retention of 949 more acres of open space, primarily located at the outer boundaries of the project site. The photomontages shown on Figures 5.5-4b and 5.5-5b can be compared to Figures 4.8-8b and 4.8-9b to identify how the Redesigned Project Alternative would appear in comparison to the proposed project. A larger area of open space would be retained adjacent to I-205 under the Redesigned Project Alternative, thus maintaining views of agricultural lands in the foreground view of this gateway to the County (Figure 5.5-4). However, these agricultural lands would not be clearly visible from Patterson Pass Road due to proposed commercial uses (Figure 5.5-5b). From this location, this alternative would appear very similar to the proposed project.

A large area of open space would be retained along the western edge of the project site for this alternative. This area would be most visible to recreationists using the pathways along the California Aqueduct and project residents at the western edge of the site. While the Delta-Mendota Canal is closer to the project site, this canal does not have public access. At the north end of the site, the large regional park along Old River, proposed under this alternative, would be visible to boat users as well as to residents within the site.

This alternative includes significant bands of landscape screening to screen views of development from I-205 as well as to visually separate industrial and residential areas. As with the proposed project, additional tree plantings would be needed along major roads.

The Redesigned Project Alternative would enhance views towards Mt. Diablo due to the realignment of minor arterials and pedestrian paths within the site in a northwest - southeast direction (Figure 5.5-1). In addition, this alternative would include a large area of open space at the site's western edge that would allow uninterrupted views of the hills to the west.

Visual impacts related to tall industrial and other buildings would be the same as the proposed project unless the recommended height limitation and setbacks [see Mitigation Measures 4.8-3(a)-(e)] were incorporated into this alternative. Specifically industrial and medium-high density residential areas should be limited to heights of 45 and 40 feet, respectively. Height limitations of 50 feet for industrial buildings are illustrated in Figure 5.5-4b. Potential impacts and recommended mitigation measures related to existing mature trees and light and glare would be the same for the Redesigned Project alternative and the proposed project.

Fiscal Impacts

The Redesigned Alternative could impose a greater fiscal burden on the County General Fund than the proposed project. Net operating deficits could begin as early as the fifth year of development, and would grow as the New Town built out, rising to a maximum of \$287,000 during year 2006 (Table 5.5-4). In comparison, the proposed project would generate a net revenue surplus throughout the development period.



a) Panoramic view across southern portion of project site from I-205. A major electrical transmission line crosses the level agricultural field, while rural residences are visible in the background. The Delta-Mendota Canal is visible in the foreground.



b) Photomontage of Redesigned Project Alternative which illustrates retention of agricultural uses in the foreground and residential development in the background. Industrial buildings in background of this photomontage are assumed to be a maximum of 50 feet in height as compared to the Proposed Project with 100-foot tall industrial buildings (Figure 4.8-9).

BASELINE

Source: Henderson and Associates.

PHOTOMONTAGE OF REDESIGNED PROJECT ALTERNATIVE: PATTERSON PASS ROAD

Figure 5.5-5



- a) Panoramic view across southern portion of project site, looking west from Patterson Pass Road near its intersection with I-205. Mt. Diablo foothills form the background to agricultural fields.



- b) As with the proposed project, this alternative also includes Freeway-Service commercial uses in the foreground. From this location, the retained agricultural lands in the background are not easily seen due to extensive foreground development.

Source: Henderson and Associates.

BASELINE

5.5 REDESIGNED PROJECT

The comparative surplus for the proposed project at buildout would be \$1.5 million. Appendix 10.19 presents the fiscal model used for the Redesign Alternative.

The size of the deficit for the Redesign Alternative can be attributed to: 1) a higher proportion of medium-, medium-high, and high-density housing units in its residential component; these units have a lower assessed value than low-density units, and would be unable to adequately fund all of the services the New Town requires unless augmented with special taxes and/or assessments; and 2) this alternative has more park acreage which causes per capita service costs to be higher than for the proposed project.

Financial Impacts

Because the Redesign Alternative would presumably use the site in a more efficient manner than the proposed project, financial burden (as measured by total capital costs as a percent of total land value) is likely to be lower.

Population, Housing, and Employment

The Redesign Project Alternative would, at buildout, contain 14,897 housing units and provide 15,455 jobs. When compared to the proposed project, the Redesign Project Alternative represents a 7.0 percent reduction in housing units, and a 22.3 percent reduction in jobs. Assuming 1.2 employed residents per household, the number of employed residents to jobs under this alternative would be 1.16, which is higher than the 0.97 ratio for the proposed project, and implies that, at buildout, a substantial number of residents would commute to jobs outside of the community. However, as with the proposed project, the Redesign Project Alternative is unlikely to achieve the amount of industrial and commercial development shown in its plan. A more realistic projection of employment created under the Redesign Project Alternative would be 10,510 jobs at buildout of the residential component of the project. This represents 9,331 jobs in the commercial and industrial sectors (see Table 4.11-3) and 1,179 public-sector jobs. The resulting ratio of employed residents-to-jobs would be 1.7, which is a slight improvement over the 1.95 ratio noted for the proposed project, if a realistic projection of employment is considered (see Section 4.11 of DEIR).

In comparison to the proposed project, the Redesign Project Alternative would have a larger percentage of its housing units in medium-high and high-density configurations (43.0 percent for the alternative versus 20.5 percent for the proposed project). Therefore, housing under this alternative is likely to be more affordable to persons working in the community and low-income residents of San Joaquin County. Under the Redesign Project Alternative, approximately 90 percent of households employed in the community could also afford to live there; only 60 percent could do so under the proposed project. However, it is not known if the types of housing proposed under this alternative would find acceptance in the market place.

TABLE 5.5-4

SUMMARY OF REVENUES AND EXPENDITURES, REDESIGNED PROJECT ALTERNATIVE
(dollars, in thousands)

Item	Fiscal Year Ending																	
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
General Purpose Programs																		
Revenues	1,252	2,347	3,433	4,512	5,587	6,659	7,732	8,806	9,883	10,965	12,053	13,147	14,251	15,363	16,487	17,622	18,770	19,933
Expenditures	1,118	2,236	3,354	4,471	5,589	6,707	7,825	8,943	10,061	11,178	12,296	13,414	14,532	15,650	16,768	17,885	19,003	20,121
Net Surplus (Deficit)	134	111	79	41	(2)	(48)	(93)	(137)	(178)	(213)	(243)	(267)	(281)	(287)	(281)	(263)	(233)	(188)
Fire Protection																		
Revenues	248	493	734	973	1,210	1,445	1,679	1,913	2,147	2,381	2,615	2,851	3,087	3,325	3,564	3,805	4,047	4,292
Expenditures	143	287	430	574	717	861	1,004	1,147	1,291	1,434	1,578	1,721	1,865	2,008	2,151	2,295	2,438	2,582
Net Surplus (Deficit)	105	206	304	399	493	584	675	766	856	947	1,037	1,130	1,222	1,317	1,413	1,510	1,609	1,710
Road Maintenance																		
Revenues	149	295	441	585	728	870	1,013	1,154	1,296	1,438	1,580	1,723	1,866	2,009	2,153	2,299	2,445	2,592
Expenditures	41	82	123	164	205	246	287	328	369	410	451	492	533	574	615	656	697	738
Net Surplus (Deficit)	108	213	318	421	523	624	726	826	927	1,028	1,129	1,231	1,333	1,435	1,538	1,643	1,748	1,854
Library																		
Revenues	66	131	195	258	321	383	445	507	569	631	693	756	818	882	945	1,009	1,073	1,138
Expenditures	27	54	80	107	134	161	187	214	241	268	294	321	348	375	402	428	455	482
Net Surplus (Deficit)	39	77	115	151	187	222	258	293	328	363	399	435	470	507	543	581	618	656

Note: See Appendix 10.19 for additional detail regarding these projections.

Source: Economic and Planning Systems, Inc.

Public Health and Safety

The public health and safety impacts for the Redesigned Project Alternative would be are similar to impacts identified for the proposed project with a few exceptions. The potential health impacts associated with aerial pesticide spraying on lands west of the project would be reduced by the 1,000-foot wide open space buffer zone proposed for the west side of the Redesigned Project Alternative. The southern portion of the site would remain in agricultural use. Potential public and environmental impacts may result from the use of pesticides and herbicides in that area. The placement of the open space buffer along the 230 kV transmission line, the relocation of the high school, and the proposed setbacks for elementary schools would reduce potential adverse human health impacts suspected to be related to electromagnetic fields generated by high voltage transmission lines.

Biological Resources

From a biological perspective, the Redesigned Project Alternative would have similar impacts to the proposed project. A major detrimental aspect of this alternative and the proposed project is that agriculture would be essentially eliminated from the site. The Redesigned Project Alternative leaves five percent of site acreage in agriculture. However, this small acreage is primarily located along I-205 as far as possible from the Old River area where wildlife is the most abundant. In evaluating the biotic worth of all of the alternatives, the value of the site is the agriculture which totally supports the rich wildlife complement.

It is possible that the area along Old River and the west boundary of the site, which is proposed as regional parkland, could adequately substitute for the agricultural acreage lost in this area. The planting of large trees would be an asset to the area as it exists today, since it would provide more roosting sites and possible nesting sites for the large raptor population which feeds on the site. However, a number of rodent studies have already shown that the production of key rodent prey species, such as the California meadow vole and the Botta pocket gopher, in wildlands can never equal that produced by alfalfa fields. Thus, the main worth of this area for wildlife, which is a "rodent factory" and raptor and mammalian predator feeding habitat, would be greatly diminished unless alfalfa propagation were maintained or enhanced. For wildlife purposes, such agricultural use of regional parkland may be appropriate

The biological value of the area would be further diminished by this alternative by the fact that the much of the acreage north of Byron Road is still designated for residential, commercial, and school development. Many of these areas were observed to be prime foraging sites for raptors, especially the threatened Swainson's hawk, in the spring 1991 biotic survey.

The marina proposed for this alternative also presents a dual ecological problem. It, even more so than the one-inlet marina shown on the proposed plan, poses a pollution and wave disruption threat to the rather unique small fish nursery littoral zone along the west bank of Old River. High speed boat traffic would also

greatly deter raptors from extensive use of the riparian trees and shrubs along the river levee as roosting sites and feeding perches.

The location of the marina in the center of the proposed regional parkland creates a barrier to wildlife movement along the levee/agricultural land interface. This location also negates the present desirable situation where wildlife can move freely along the Old River levee and adjacent fields in order to fully use the entire Byron Road/Old River foraging area.

Transportation

The Redesign Project Alternative is intended to focus activity internally through the development of the village concept, with each village in essence a large mixed use development. The Redesign Project Alternative would generate an estimated 214,000 daily trip ends, which is about 15 percent less than the proposed project. The total trips include about 91,000 external trips, which is 9,000 less than the proposed project. This alternative would generate freeway impacts similar to the proposed project; daily traffic forecasts on regional freeways are generally within one to two percent of the total under the proposed project.

The primary difference between the proposed project and the Redesign Project Alternative would be the way in which the land use plan would affect internal circulation. The clustering concept in the Redesign Project Alternative would encourage travel by walking and bicycling within each village center by reducing the average distance between residential areas and commercial uses. Parking demand could also be reduced through greater use of shared parking. Total vehicle travel within the project site would be reduced compared with the proposed project. It would be possible to design narrower roadways within the individual villages to further encourage walking and bicycling, reducing the total impermeable surface area of the project site. These types of changes could occur for the proposed project as well as the Redesign Project Alternative at the time of the Specific Plan.

The Redesign Project Alternative would be more conducive to transit usage. The potential for internal transit use would be increased as there would be fewer primary destinations with the village concept. Clustering development in the village concept would also create higher density areas more conducive to transit connections to and from external areas.

The Redesign Alternative reorients site access in the portion of the site south of Byron Road away from Patterson Pass Road. This would reduce the number of major intersections along Patterson Pass Road and allow Patterson Pass Road to function primarily as a through-traffic route. In contrast, by orienting the town center toward Patterson Pass Road the proposed project combines both site access and regional circulation functions on Patterson Pass Road, which would require more lanes on Patterson Pass Road and larger intersections.

Air Quality

This alternative would have significant local and regional air quality impacts during construction. The amount and duration of construction activities would be similar to that of the proposed project. Mitigation measures for construction dust control would be identical to those for the proposed project.

Regional emissions for this alternative from vehicle travel and residential sources have been calculated and are shown in Table 5.3-2. While regional emissions under this alternative are less than those of the proposed project, the effect of these emissions would be considered significant and adverse. Mitigation measures for regional emissions would be identical to those for the proposed project. The measures related to mixed-use development and densities to provide non-vehicular traffic have been incorporated into this alternative which help to offset some emissions.

The potential for local air quality-related land use conflicts between proposed residential areas and existing agricultural uses would be lessened, compared to the proposed project, by the inclusion of a wide buffer zone along the western boundary of the site. The potential for conflicts between industrial lands and residential areas within the site have been reduced by placing open space buffers between these two uses. Potential odor nuisance problems related to residential uses near the proposed sewage treatment plant have been eliminated by placing general industrial used around the sewage plant.

The carbon monoxide impacts of this alternative have been calculated and are shown in Table 5.3-3. Concentrations of carbon monoxide in the year 2010 with buildout of this alternative are shown for seven locations affected by traffic from the site. Impacts at some locations are greater than the proposed project and at others are lower than the proposed project, but in all cases concentrations remain below the applicable state and federal standards. This impact is consider not significant.

Noise

The Redesigned Project Alternative is a major reconfiguration of land use patterns within the project site. This alternative also proposes that lands adjacent to Interstate 205 remain undeveloped. Under this alternative, noise levels in and around the project site would be similar to the noise levels predicted for the proposed project. Significant noise level increases would be expected as outlined for the proposed project throughout the greater area. Proposed noise sensitive land uses along the major roadways accessing the site would be impacted by traffic noise. However, fewer residential units would be impacted by traffic on I-205 due to the proposed setback from this freeway.

5.6 REDUCED-SCALE PROJECT

PROJECT OBJECTIVES

This alternative was developed by the EIR team early in the DEIR preparation stage. The objectives of the Reduced-Scale Alternative include the following:

- To protect a portion of existing on-site agricultural operations and prime agricultural farmlands;
- To include buffer areas within the project site that would protect adjoining agricultural operations from nuisance complaints and other potential land use conflicts;
- To concentrate development around a town center in order to encourage pedestrian access and efficient use of public transit;
- To protect the riparian corridor of Old River and Mountain House Creek and to provide needed regional park facilities by the inclusion of regional parkland along these two waterways;
- To provide local school, park, and commercial facilities throughout residential neighborhoods;
- To provide a wide mix of land uses within a portion of the project site to allow a beneficial jobs/housing balance;
- To prevent development within the 100-year floodplain;
- To minimize off-site impacts related to potential odors and hazards associated with water and wastewater treatment plants;
- To provide on-site community and neighborhood park facilities;
- To provide adequate setbacks from major transmission lines by setting aside permanent open space along transmission lines;
- To set aside future growth areas in an agriculture-urban reserve area, thus allowing agricultural operations to continue until the need for expansion can be demonstrated.

This alternative would be located within only a portion of the project site and would be significantly reduced in scale from the proposed project (Figure 5.6-1). The amount of acreage proposed for development in this alternative would be approximately 33 percent of the entire project site (Table 5.6-1). A total of 1,980 acres would be set aside for agricultural uses, with an additional 330 acres designated Agriculture-Urban Reserve. In comparison, the proposed project does not include any acreage set aside for continued agricultural use.

Urban development would be concentrated between Grant Line Road on the south and Byron Road on the north. The most dense development would occur in the vicinity of a town center that would be located west of Patterson Pass Road and accessed by a new minor arterial between Byron Road and Grant Line Road (Figure 5.6-1).

PROJECT DESCRIPTION

Residential uses would range from very-low density along the project site's western boundary to high-density residential concentrated in a town center (Figure 5.6-1). Almost one-half (48.2 percent) of the total residential acreage (1,053 acres) would be low-density, which assumes an average of 4.5 units per acre (Table 5.6-1). Medium and medium-high density residential areas would be located along a central minor arterial and in proximity to the town center (Figure 5.6-1).

Commercial uses would include all the same designations as the proposed project with the exception of freeway-service commercial which would not occur under this alternative. Total commercial acreage of this alternative (124 acres) would be about 45 percent of that proposed for the project (275 acres) (Table 5.6-1). A 20-acre community commercial area at the center of the project site would form the town center with office commercial and mixed-use commercial uses surrounding the community commercial core (Figure 5.6-1). Two neighborhood commercial areas would be centered within residential neighborhoods, while a 22-acre general commercial area would be located along Byron Road where commercial uses could serve a wider geographic area than just the proposed project (Figure 5.6-1).

Industrial uses of this alternative would be located within limited industrial areas along Patterson Pass Road and Byron Road, both existing major arterials (Figure 5.6-1). No general industrial areas are proposed. The total acreage for industrial use (126 acres) would be approximately 30 percent of that proposed for the project (427 acres) (Table 5.6-1). The limited industrial area along Patterson Pass Road would adjoin the transmission line corridor (Figure 5.6-1).

The public area set aside for water and wastewater facilities (50 acres) would be located at the northwestern boundary of the developed area, just south of Byron Road and west of an area proposed for industrial uses (Figure 5.6-1). This location is expected to reduce impacts such as odors to off-site residents, compared to the location for water and wastewater facilities for the proposed project.

A total of seven elementary schools would be located throughout the project site, in locations central to residential neighborhoods (Figure 5.6-1). Each of these school sites would be approximately 15 acres in size. One elementary school would be immediately adjacent to a 36-acre high school, along Mountain House Creek. In this way, some recreational and administrative facilities could be shared by both schools. The proposed high school would be located at the junction of two minor arterials, and near to commercial facilities of the town center where high school students could go after school hours. No schools are proposed in proximity to existing major transmission lines.

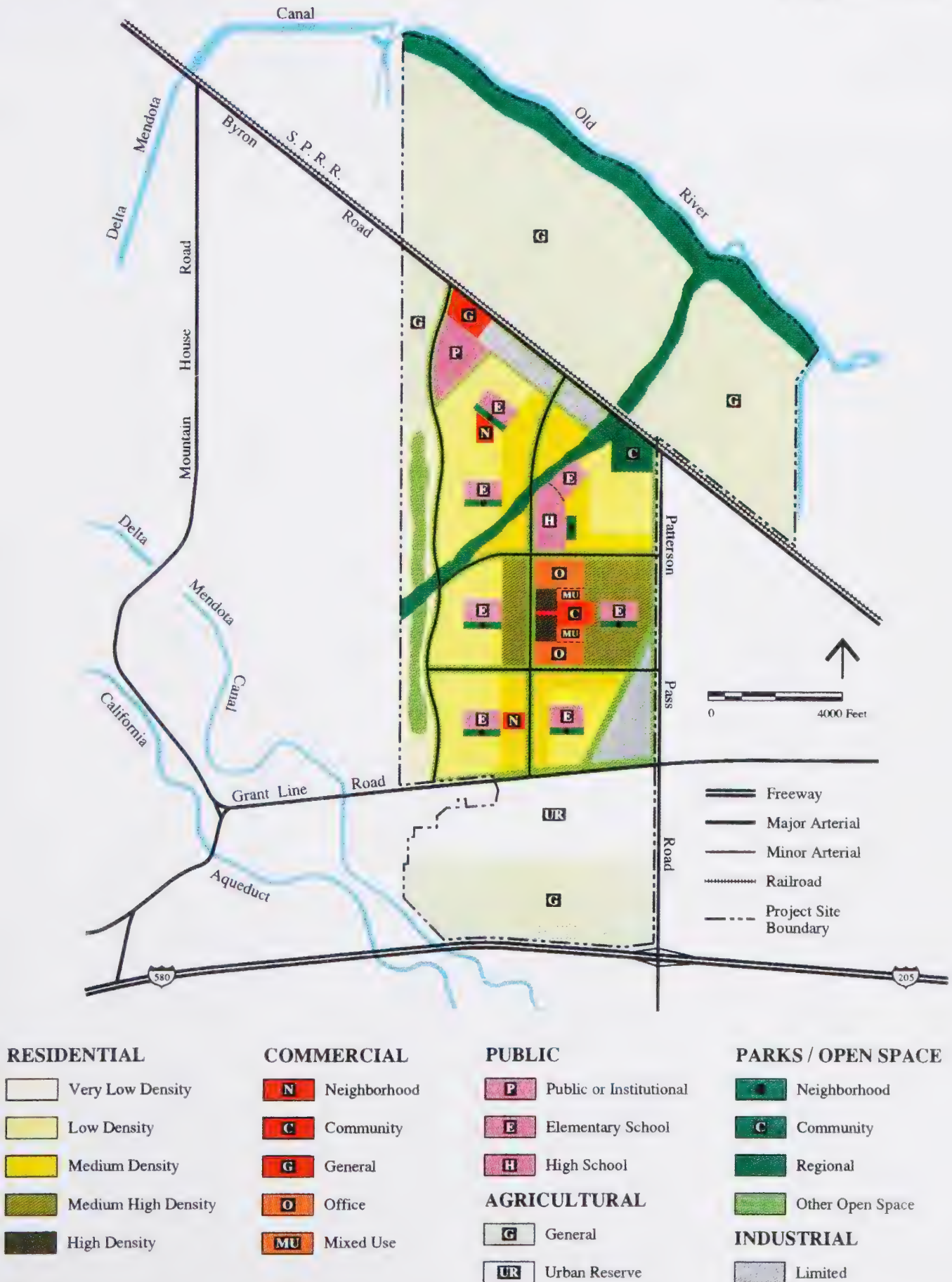


TABLE 5.6-1

REDUCED-SCALE PROJECT AS COMPARED WITH PROPOSED PROJECT
(acres)

Land Use	Reduced-Scale Project	Proposed Project
<u>Residential</u>		
Very-low density ¹	130	
Low density ²	508	1,202
Medium density ³	237	995
Medium-high density ⁴	157	164
High density ⁵	21	37
Total Residential	1,053	2,398
<u>Commercial</u>		
Community commercial	20	62
Town center/mixed use	15	43
Neighborhood commercial	17	47
General commercial	22	36
Freeway service	0	27
Office commercial	50	60
Total Commercial	124	275
<u>Industrial</u>		
Limited industrial	126	317
General industrial	0	110
Total Industrial	126	427
<u>Schools</u>		
Elementary, middle	103	180
High school	36	80
Total Schools	139	260
<u>Agricultural</u>		
General agriculture	1,980	0
Agriculture/urban reserve	330	0
Total Agriculture	2,310	0
<u>Open Space and Recreation</u>		
Neighborhood parks	35	62
Community parks	32	129
Regional parks	361	70
Resource conservation	--	40
Other open space		
• Golf courses	82	352
• Marina	--	60
• Landscape easements	294	37
Total Open Space and Recreation	804	750

Table 5.6-1 - *continued*

Land Use	Reduced-Scale Project	Proposed Project
<u>Public Utilities and Roads</u>		
Sewer and waste utility area	50	50
Water treatment plant ⁷	--	23
Existing streets ⁸	--	40
Major roads and overpasses ⁹	--	427
Existing railroad	61 ¹⁰	17
Total Utilities and Roads	111⁸	557
TOTAL ACRES	4,667	4,667

¹ Very-low-density residential development assumes 1.5 dwelling units per acre.

² Low-density residential development assumes 4.5 dwelling units per acre.

³ Medium-density residential development assumes 8 dwelling units per acre.

⁴ Medium-high-density residential development assumes 12 dwelling units per acre.

⁵ High-density residential development assumes 18 dwelling units per acre.

⁶ Other open space for the Redesigned Project includes acreage along Mountain House Creek that could be used for a golf course.

⁷ The water treatment plant acreage is included in the 50 acres of sewer and waste utility area.

⁸ Existing roads for the two alternatives (40 acres) are included in other land use acreages.

⁹ Proposed road acreages are not separated out for the two alternatives, but are included in other proposed land use designations.

¹⁰ The 60.6 acres include the right-of-way along the railroad where no land uses are proposed.

This alternative includes retention of 1,980 acres in general agricultural use, and an additional 330 acres to be designated Agriculture-Urban Reserve. This latter designation applies to an area just south of Grant Line Road, where agricultural uses could continue until such time that the area would be converted to urban uses (Figure 5.6-1). This Agriculture-Urban Reserve area is considered an appropriate area for eventual urban uses, contiguous to development within the project boundaries.

Large-scale agricultural operations could continue north of Byron Road and south of an area proposed for a regional park along Old River (Figure 5.6-1). Additional areas for agricultural use are proposed north of I-205 and south of the area proposed for Agriculture-Urban Reserve, and south of Byron Road at the site's western boundary (Figure 5.6-1). The agricultural area south of Grant Line Road would allow protection of existing agricultural operations as well as serve as a visual buffer zone between the heavily-traveled freeway, which is a western gateway to San Joaquin County, and urban development to the north. Just south of Byron Road, the agricultural area, in conjunction with the general commercial and public areas (Figure 5.6-1), would serve as buffers between agricultural operations to the west of the site and on-site proposed residential uses.

A 361-acre regional park would be located along Old River and Mountain House Creek. This park would serve residents of the project site as well as County residents. Improvements are expected to be necessary to Mountain House Creek as part of the regional park designation. The park could include boat access to Old River and approximately 5.5 miles of continuous pedestrian, bicycle, and horse trails along Old River and Mountain House Creek.

A 32-acre community park would be located adjacent to the regional park at the junction of Byron Road and Patterson Pass Road. The park could include playing fields and other active recreation facilities where nighttime lighting could be screened from nearby residences. A total of seven five-acre neighborhood parks would be located throughout residential neighborhoods, adjacent to schools. In this way, some recreational facilities could be shared by schools and the public, and operational costs could be reduced.

A golf course would be located along the project site's western boundary, in an area designated as Other Open Space. The golf course would be surrounded by very-low density residential development to serve as a buffer between agricultural operations to the west and more dense residential uses to the east. Additional open space areas include landscaped buffers along all minor arterials, an area just south of Byron Road that would buffer the water and wastewater treatment plants (public area), and limited industrial areas from residential neighborhoods to the south and southwest (Figure 5.6-1). No marina is included in this alternative.

Four new minor arterials are proposed within the developed areas of this alternative. Major access is expected to be from Grant Line Road, Patterson Pass Road, and Byron Road. All of the minor arterials within the site would terminate at these existing major arterials (Figure 5.6-1). Two north-south minor arterials and two east-west minor arterials would be included in this alternative. The east-west minor arterials

would be developed at the outer edges of the town center. While collectors are not shown in Figure 5.6-1, these are assumed to be developed throughout the developed portions of the project to evenly distribute traffic.

Bicycle paths could follow all the proposed minor arterials which would include landscaping on both sides of the roadway (Figure 5.6-1). Additional bicycle, pedestrian, and horse trails could be developed within the regional parkland. Along Mountain House Creek, these trails would be easily accessible from residential neighborhoods. Public transit stops are expected to be located along minor and major arterials within, and at the edge of, the project site. A park-and-ride lot could be provided within the limited industrial area at the junction of Patterson Pass Road and Grant Line Road.

PHASING

This alternative could be developed in one or more phases. If it were to develop in two or more phases, the first phase should be concentrated in the town center, with partial buildout of both commercial and residential uses. The first phase could occur between the two east-west minor arterials and between Patterson Pass Road and the site's western boundary. Additional phases should occur outward from this center to allow efficient extension of utility lines and roads.

PROJECTED POPULATION AND EMPLOYMENT

At full buildout, this alternative would have a residential population of 17,383 assuming the following: an average of 3.12 persons per household for very-low-density and low-density residential areas; 2.7 persons per household for medium-density residential areas; and, 2.0 persons per household for medium-high-density and high-density residential areas (Table 5.6-2). The projected population of this alternative would be approximately 40 percent of that for the proposed project.

Approximately 8,356 jobs would be created by full buildout, using the assumptions regarding jobs per acre for each land use as shown in the footnotes to Table 5.6-2. More than 91 percent of the projected employment would be related to proposed commercial and industrial development (Table 5.6-3).

Land Use, Agricultural, and Planning Issues

This alternative incorporates many of the mitigation measures recommended in the Land Use section of Chapter 4 (Section 4.1). The western buffer area would help to eliminate or reduce potential urban/rural conflicts, such as spraying, equipment noise, trespassing, and vandalism. Very-low-density development along the western boundary would permit substantial setbacks from adjacent agricultural practices. Retention of agricultural lands north of Byron Road substantially reduces the extent of land taken out of agricultural production. However, this alternative does not fully mitigate the impact of the proposed project relative to loss of agricultural land. Fewer Williamson Act contracts would require cancellation. However, as discussed in the Land Use section, most of the landowners have filed for nonrenewal and Williamson Act contracts will automatically expire in eight to ten years.

Public Services

Parks and Recreation

This alternative includes 67 acres of neighborhood and community parks, 361 acres of regional parks and 82 acres for a golf course. This acreage is more than adequate for parks and recreation facilities.

Schools

This alternative includes seven elementary schools and one high school. The schools are planned for a total student population of 1,992 and are located within the Tracy Unified School District. School age children would attend Lammersville Elementary School and the Merril F. West High School in Tracy. According to school officials, the number of facilities proposed under this alternative would be adequate for the projected population. Depending upon development patterns, the school impacts related to phasing would be similar to those of the proposed project. To meet the acreage requirements for a high school, the proposed school site should be expanded from 36 to 40 acres.

Fire and Police Protection Services

According to fire protection personnel of the Tracy Rural Fire Protection District, two stations would be required for appropriate service to this alternative project. The equipment and personnel of the necessary stations are dependent on the types of commercial, industrial, and residential land uses. Assuming the land designated Public or Institutional on the site plan could be the location of fire stations, this alternative would provide adequate fire protection. Each station would have to accommodate one engine company and three personnel per shift (three shifts per day). A ladder company may be necessary to provide service to the industrial areas and one of the stations should be able to provide emergency medical services. If the fire protection services are not provided early in the buildout, the impacts would be similar to those of the proposed project.

The response time for law enforcement services would be the same as for the proposed project. Unless this alternative incorporates or develops a Services District, according to County Sheriff's Department staff, there would be competition for services with other areas. The required staffing and service would be the same as

TABLE 5.6-2

RESIDENTIAL POPULATION FOR THE REDUCED-SCALE ALTERNATIVE

Land Use	Acres	Total Units	Total Population
Very-low density ¹	130	195	608
Low density ²	508	2,286	7,132
Medium density ³	237	1,896	5,119
Medium-high density ⁴	157	1,884	3,768
High density ⁵	212	378	756
TOTAL	1,053	6,639	17,383

¹ Assumes 3.12 persons per dwelling unit and 1.5 dwelling units per acre.

² Assumes 3.12 persons per dwelling unit and 4.5 dwelling units per acre.

³ Assumes 2.7 persons per dwelling unit and 8 dwelling units per acre.

⁴ Assumes 2.0 persons per dwelling unit and 12 dwelling units per acre.

⁵ Assumes 2.0 persons per dwelling unit and 18 dwelling units per acre.

Source: BASELINE Environmental Consulting.

for the proposed project. Because this alternative does not include the development of a marina, the demand for boating safety services on Old River would be minimized. Response time from the Stockton boathouse to Old River would remain approximately two hours.

Solid and Hazardous Waste

Impacts associated with solid and hazardous waste would be less with this alternative than for the proposed project due to the significantly lower population. Solid waste generated by the 17,383 residents would amount to 27,030 tons per year at full buildout without waste reduction. A 25 percent reduction in tonnage would result in 20,272 tons per year and 50 percent reduction would result in 13,515 tons per year at full buildout.

Libraries

Local libraries would be impacted by the increase in demand for service. The population of this alternative would create the need for the construction of an on site 9,000 square foot facility. The impacts would be the same as the proposed project unless a library facility were constructed.

Public Utilities

Water and Wastewater

The Reduced-Scale Project Alternative includes a population about 60 percent lower than the proposed project, a 55 percent decrease in commercial acreage, and a 70 percent decrease in industrial acreage. Agricultural uses totalling 2,310 acres would be retained. Significantly smaller wastewater collection, treatment, and disposal facilities would be required for the Reduced-Scale Project Alternative. However, the same type of wastewater impacts exist for the alternative as for the proposed project. These impacts include the potential to discharge to Old River, that could result in degradation of surface waters, and potential development of an inadequate wastewater treatment system, that could result in discharge of partially treated effluent into the reclamation system. The potential for these impacts would be significantly reduced under

TABLE 5.6-3

EMPLOYMENT FOR REDUCED-SCALE ALTERNATIVE¹

Land Use	Acres	Total Jobs
<u>Commercial</u>		
Community commercial ²	20	480
Town center/mixed use ³	15	765
Neighborhood commercial ²	17	408
General commercial ²	22	528
Office commercial ⁴	50	2,200
Total Commercial	124	4,381
Total Industrial ⁵	126	3,276
Total Schools ⁶	139	348
Total Recreation ⁷	510	101
Total Utilities ⁸	50	250
TOTAL	949	8,356

¹ Does not include construction-related employment or residents working out of their homes. All employment projections are rounded to the nearest integer.

² Assumes 24 jobs per acre.

³ Assumes 51 jobs per acre.

⁴ Assumes 44 jobs per acre.

⁵ Assumes 26 jobs per acre.

⁶ Assumes 2.5 jobs per acre.

⁷ Assumes one job per 5 acres of park and 15 jobs for one nine-hole golf course. Landscape buffer areas are not included.

⁸ Assumes five jobs per acre for water and sewage treatment acres.

this alternative. Given the large amount of undeveloped acreage with this alternative, on-site land disposal of reclaimed wastewater would be much more viable than the proposed project.

The extensive acreage of agricultural uses, plus the open space and recreation uses, present the opportunity to use reclaimed water from the wastewater treatment system for irrigation. The opportunity to use reclaimed water for irrigation would be a beneficial impact.

The Reduced-Scale Project Alternative would create much lower water demand than the proposed project for municipal and industrial purposes. The population and acreage for commercial and industrial uses are much lower for the Reduced-Scale Project Alternative than for the proposed project. Open space corridors and parks are included in the Reduced-Scale Project alternative. Agricultural use of 2,310 acres is about 50 percent of the project area, compared to no agricultural use in the proposed project. As a result, the water demand for residential, commercial, and industrial development would be decreased significantly. Agricultural water demand for half of the land would remain. Adequate water supply is expected to be available to serve the demand for the uses proposed.

The overall water demand for the Reduced-Scale Project Alternative would be significantly less than for the proposed project; however, water impacts would be similar to the proposed project, including: 1) water demand would exceed supply due to development outside of BBID boundaries; 2) an absence of a year-round water supply; and 3) the need for resolution of institutional issues for the change of part of BBID's service area from agricultural water use to municipal/industrial use. These impacts could lead to overdrafting the local groundwater resources which would be a significant impact.

The potential for public health hazards for the Reduced-Scale Project Alternative would be the same as for the proposed project. There would be the potential to provide untreated water, inadequate water treatment and wastewater treatment, inadequate water and wastewater sludge disposal, inadequate reclamation system, and release of hazardous materials that could adversely impact water resources and public health. These would be significant impacts.

Storm Water Drainage

The storm water drainage system for the Reduced-Scale Project Alternative would be significantly less extensive than that for the proposed project. The Reduced-Scale Project is centralized in the center portion of the project site and includes over 2,300 acres of agricultural land that is not part of the proposed project. This land use plan would result in smaller runoff volumes from the project site into Old River and a more compact collection system. Most of the storm water runoff from the developed portion of the project site could be routed to Mountain House Creek. Diversion channels to route storm water runoff around the developed portion, improvements to Mountain House Creek, and at least two pump stations on Old River would probably still be necessary. Although all the significant impacts identified for the proposed project are also valid for the Reduced-Scale Project Alternative, the mitigation measures would be more easily implemented and be more effective in reducing the level of impact.

Electricity and Gas

The Reduced-Scale Project Alternative would have a significantly lower energy demand than the proposed project and, therefore, require less expansion of electrical and natural gas facilities. The residential energy demand would only be approximately 40 percent of the proposed project. Similar reductions can be expected for commercial, industrial, and construction uses. A new electrical substation may still be needed for the Reduced-Scale Project Alternative. Fewer distribution lines would be needed since the development would be limited to the area between Byron and Grant Line roads.

Since the Reduced-Scale Project Alternative designates the entire area north of Byron Road and south of Grant Line Road as agricultural or open space, potential development of utility easements would be limited to a 6,000-foot section of a natural gas pipeline between Byron and Patterson Pass roads. Construction within the easement would require prior PG&E approval.

Telephone

New telephone facilities would be needed to serve the Reduced-Scale Project Alternative. Since the population would be significantly less than that for the proposed project, the telephone service expansion would also be less. Distribution facilities would be greatly reduced under this alternative because only limited telephone service would be required north of Byron Road and south of Grant Line Road, since these areas would remain undeveloped.

Cultural Resources

Potential impacts to historic and prehistoric resources would be similar to the proposed project, except that a smaller portion of the site would be developed. Therefore, fewer resources may be affected.

Geology, Soils, and Seismicity

Relative to the proposed project, the Reduced-Scale Project Alternative would accommodate a lower population, exposing fewer people to the seismic hazards of the area. Similar to the Redesigned Project Alternative, the Reduced-Scale Project Alternative would not involve the construction of structures along the Old River levee, which could be damaged in the event of a levee failure. In this alternative, residential and commercial land uses between Byron Road and Old River would be replaced by agricultural uses, reducing the potential settlement of structures in areas underlain by low-density clay.

Hydrology and Water Quality

The Reduced-Scale Project Alternative would not result in urban development within the 100-year flood zone at the northern portion of project site. Current management of flood flows in Mountain House Creek, allowing flooding of areas at the base of the Old River levee, could be continued without directly impacting the Reduced-Scale Project. The proposed regional park along the levee could be catastrophically flooded during a levee failure, possibly causing human injury and or damage to park property.

The Reduced-Scale Project Alternative would result in a decrease in urban runoff relative to the proposed project. The potential for erosion during the development of this alternative would also be reduced but would be similar in significance to the impact described for the proposed project. Construction would not occur in proximity to the wetlands area near the terminus of Mountain House Creek, reducing the potential for sedimentation of the wetland during the construction phase. The construction phase of a marina is not included in the Reduced-Scale Project Alternative, removing the associated impacts on the hydraulics and water quality in Old River.

Visual Quality

Visual quality impacts would be reduced under the Reduced-Scale Project Alternative in comparison to the proposed project because more area would be retained as open space. Existing agricultural operations north of I-205 (Figure 5.6-2) and north of Byron Road would protect views from these two roadways. From both I-205 and Patterson Pass Road, motorists would have uninterrupted views across agricultural fields (Figures 5.6-2 and 5.6-3). Light and glare impacts would be slightly reduced. Impacts related to building heights could be similar but for smaller areas of the site.

Fiscal Impacts

The Reduced Scale Alternative would generate a smaller fiscal benefit for the County General Fund than the proposed project. The new operating surplus contributed by this alternative would grow to \$395,000 by the year 2010 (Table 5.6-4). In comparison, the proposed project would generate a net surplus of approximately \$1.5 million at the same time, assuming development occurs as anticipated by the applicant. (Appendix 10.19 presents the fiscal model used for the Reduced Scale Alternative.) This finding is important because it illustrates the fiscal implications of the proposed project not meeting the applicant's development schedule. A slower rate of growth, or less success in attracting commercial and industrial facilities, could mean that special taxes and/or assessments would have to be levied to ensure an adequate level of service provision.

Financial Impacts

To the extent that costs for certain "backbone" improvements (e.g., arterial roads, sewer mains) do not change, or change less than proportionately, as a result in the reduction of project size, then the Reduced-Scale Project Alternative may impose a higher financial burden on developable properties than would the proposed project.

Population, Housing, and Employment

The Reduced-Scale Project Alternative would, at buildout, contain 6,639 housing units and provide 8,356 jobs. When compared to the proposed project, the Reduced-Scale Project Alternative represents a 58 percent reduction in both housing units and jobs. Assuming 1.2 employed residents per household, the number of employed residents to jobs under this alternative would be 0.95, which is almost identical to the proposed



a) Panoramic view across southern portion of project site from I-205. A major electrical transmission line crosses the level agricultural field, while rural residences are visible in the background, The Delta-Mendota Canal is visible in the foreground.



b) Photomontage of Reduced-Scale Project alternative illustrates large area in foreground retained in agricultural use, as compared with the proposed project (Figure 4.8-8(b)).

BASELINEE

PHOTOMONTAGE OF REDUCED - SCALE PROJECT ALTERNATIVE: PATTERSON PASS ROAD

Figure 5.6-3



- a) Panoramic view across southern portion of project site, looking west from Patterson Pass Road near its intersection with I-205. Mt. Diablo foothills form the background to agricultural fields.



- b) Photomontage of Reduced-Scale Project Alternative illustrates retention of agricultural areas in the foreground, as compared to both the proposed project (Figure 4.8-9(b)) and the Redesigned Project Alternative (Figure 5.5-5(b)).

Source: Henderson and Associates.

BASELINE

TABLE 5.6-4

SUMMARY OF REVENUES AND EXPENDITURES, REDUCED SCALE ALTERNATIVE
(dollars, in thousands)

Item	Fiscal Year Ending																	
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
General Purpose Programs																		
Revenues	565	1,059	1,548	2,035	2,519	3,002	3,485	3,969	4,454	4,941	5,430	5,923	6,419	6,919	7,424	7,935	8,451	8,973
Expenditures	477	953	1,430	1,906	2,383	2,859	3,336	3,812	4,289	4,766	5,242	5,719	6,195	6,672	7,148	7,625	8,101	8,578
Net Surplus (Deficit)	88	106	118	129	136	143	149	157	165	175	188	204	224	247	276	310	350	395
Fire Protection																		
Revenues	114	227	338	448	557	665	773	880	988	1,095	1,203	1,311	1,419	1,528	1,638	1,748	1,860	1,972
Expenditures	60	120	180	240	300	360	420	480	539	599	659	719	779	839	899	959	1,019	1,079
Net Surplus (Deficit)	54	107	158	208	257	305	353	400	449	496	544	595	640	689	739	789	841	893
Road Maintenance																		
Revenues	67	133	199	264	328	392	456	520	584	648	712	776	840	905	970	1,035	1,101	1,167
Expenditures	18	37	55	73	92	110	129	147	165	184	202	220	239	257	275	294	312	330
Net Surplus (Deficit)	49	96	144	191	236	282	327	373	419	464	510	556	601	648	695	741	789	837
Library																		
Revenues	30	60	90	119	148	176	205	233	262	290	319	348	376	405	434	464	493	523
Expenditures	11	22	34	45	56	67	78	90	101	112	123	134	145	157	168	179	190	201
Net Surplus (Deficit)	19	38	56	74	92	109	127	143	161	178	196	214	231	248	266	285	303	322

Note: See Appendix 10.19 for additional detail regarding these projections.

Source: Economic and Planning Systems, Inc.

project's 0.97 ratio assuming buildout of the latter, and a significant improvement over the proposed project's 1.95 ratio under market-realistic development assumptions.

In comparison to the proposed project, the Reduced-Scale Project Alternative would have a larger percentage of its housing units in medium-high density and high-density configurations (34.1 percent for the alternative, 20.5 percent for the proposed project). Housing under this alternative is, therefore, likelier to be more affordable to persons working in the community, and to low-income residents of San Joaquin County. Under the Reduced-Scale Project Alternative, approximately 75 percent of those employed in the community could also afford to live there; only 60 percent could do so under the proposed project (see Table 4.11-6).

Public Health and Safety

The public health and safety impacts for the Reduced-Scale Project Alternative would be similar to the proposed project. The elementary schools near the 230 kV transmission line are set back from the high voltage lines at distances that would reduce potential health impacts. The increase in agricultural land uses of the Reduced-Scale Project Alternative may increase the potential for health impacts as a result of aerial pesticide spraying.

Biological Resources

This alternative retains approximately 50 percent of the project site acreage for agriculture and designates the area between Byron Road and Old River as the major retention area to benefit wildlife. This alternative incorporates many of the recommended mitigation measures identified for the proposed project to reduce impacts to biological resources. The elimination of a marina from the Old River shore is also a positive feature of this design. If the present agricultural practices were to remain essentially the same north of Byron Road, and if the regional park plan maximizes riparian zone enhancement and minimizes park and recreational facilities, such as trails and picnic sites, this alternative could result in a better wildlife situation for that segment of the site than presently exists. Development south of Byron Road would essentially block wildlife migration to the Old River area and would result in impacts similar to the proposed project.

Transportation

The Reduced-Scale Project Alternative would generate about 110,000 daily trips, which is about 44 percent of the total daily trip generation of the proposed project. With fewer jobs, this alternative would have a lower overall component of internal travel (49 percent of total site-generated traffic) compared with 61 percent with the proposed project. About 15 percent of residents would be expected to be employed within the Reduced-Scale Alternative compared with about 24 percent internal employment for the proposed project. However, the total external trip generation, about 56,000 daily trips ends, would be only 44 percent of the total external trips generated by the proposed project. Total 2010 daily freeway volumes would be 3 to 11 percent lower with the Reduced-Scale Alternative than with the proposed project, representing 3,000 to 13,000 less ADT. Total vehicle-miles traveled would be less than half the VMT with the proposed project because the total trips generated by the alternative would be significantly less. Major improvements needed for existing County

roads in the project site vicinity would still be necessary. However, the need for six-lane arterial segments on these County roads could be avoided with the Reduced-Scale Alternative; four lanes would generally provide sufficient capacity. Freeway improvements necessary with the Reduced-Scale Alternative would be similar to those required with the proposed project, with reduced employment the Reduced-Scale Alternative would add substantial traffic to I-205 and I-580.

Air Quality

This alternative would have significant local and regional air quality impacts during construction. The amount and duration of construction activities would be roughly one-half that of the proposed project, and construction air quality impacts would be lessened similarly. Mitigation measures for construction dust control would be identical to those for the proposed project.

Regional emissions for this alternative from vehicle travel and residential sources have been calculated and are shown in Table 5.3-2. While regional emissions under this alternative are less than those of the proposed project, the effect of these emissions would be considered significant and adverse. Mitigation measures for regional emissions would be identical to those for the proposed project.

The potential for local air quality-related land use conflicts between proposed residential areas and existing agricultural uses would be lessened, compared to the proposed project, by the inclusion of a wide buffer zone along the western boundary of the site. The potential for conflicts between industrial lands and residential areas within the site have been reduced by placing open space buffers between these two uses.

The carbon monoxide impacts of this alternative have been calculated and are shown in Table 5.3-3. Concentrations of carbon monoxide in the year 2010 with buildout of this alternative are shown for 7 locations affected by traffic from the site. Impacts are lower than the proposed project, and in all cases concentrations remain below the applicable state and federal standards. This impact is considered not significant.

Noise

Noise from traffic on I-205 would not significantly impact the project area. The proposed land use under this alternative would be superior to the land use plan of the proposed project. However, the noise environment in the greater area, addressed in the cumulative analysis section, would not be significantly different to the noise environment predicted under the proposed project. This fact would be mainly due to cumulative growth in the area and not as a result of development of the Mountain House site.

6.0 ADDITIONAL CEQA CONSIDERATIONS

6.0 ADDITIONAL CEQA CONSIDERATIONS

6.1 CUMULATIVE IMPACTS

INTRODUCTION

This chapter of the DEIR focuses on the cumulative environmental impacts of the Mountain House New Town. The CEQA Guidelines require a discussion of the potential cumulative impacts that could result from a proposed project in conjunction with other projects in the vicinity which are pending, have been recently approved, or are proposed. Cumulative impacts occur when two or more individual projects together create a considerable environmental impact, or if they compound or increase other environmental impacts.

Cumulative environmental impacts for each environmental issue may cover different geographic regions or different cumulative projects, depending upon the particular issue. For example, cumulative air quality impacts cover the entire San Joaquin Valley air basin, while the assessment of cumulative land use and public utility impacts addresses growth projected within San Joaquin County to the Year 2010. The geographic area for each issue is explained at the beginning of each subsection discussed below.

San Joaquin County is currently updating its General Plan to account for five new major communities which have been proposed. These communities include the following: Mountain House, Liberty, Forest Oaks, Riverbrook, and New Jerusalem. A Draft EIR on this revised Draft General Plan ~~has not yet been~~ **was** released for public review **shortly after publication of this DEIR in December 1991 but prior to preparation of the Final EIR.** Therefore, when the cumulative analysis addresses 2010 growth for San Joaquin County, information from the ~~1990~~ **1991** Draft EIR (San Joaquin County, ~~1990~~ **1991d**) on the Draft General Plan is used. ~~The 1990 Draft EIR did not address the five proposed new communities. The traffic and air quality analyses do address the five new communities under the "Market Constraint" scenario, as discussed on page 4.14-15 of the DEIR.~~

As a basis of reference, this DEIR also addresses other out-of-County **and specific San Joaquin County** projects within an approximately 20-mile radius of the Mountain House site that are proposed or under construction (Table 6.1-1 and Figure 6-1). Contra Costa County, Stanislaus County, and Alameda County were contacted early in the DEIR process by staff of San Joaquin County to define projects in these ~~two~~ **three** counties that were proposed, under construction, or likely to occur within the general vicinity of the project site. Table 6.1 lists those projects that were identified in response to this request (May, 1991), which are within 20 miles of the project site.

The northern Stanislaus County border is approximately 17 miles southeast of the project site. The only projects within this County addressed in the cumulative analyses were projects used for the traffic and air quality analyses.

LAND USE AND AGRICULTURAL ISSUES

For purposes of this DEIR, the cumulative loss of prime agricultural land is evaluated on a regional basis, defined as the Central Valley. The Valley encompasses portions of the following counties: San Joaquin, Stanislaus, Merced, Madera, Fresno, Tulare, Kings, Kern, southern Sacramento, and eastern Contra Costa.

TABLE 6.1-1

CUMULATIVE MULTI-COUNTY PROJECTS¹

Project Name	Approximate Acreage	Distance from Mountain House (miles)	Total Residential Units	Retail Commercial (acres)	Service Commercial/ Industrial (acres)	Business Park (acres)	Other
1. Ruby Hills GPA ² , Alameda County	1,303	≈16	850	(1,000)	(1,000)	(1,000)	Golf course club, 300 acres of viticulture
2. North Livermore GPA, Alameda County	15,500	≈9.5	16,300-20,300	185 acres	550 acres		195 acres commercial center, 1,700 acres open space
3. Discovery Bay West GPA, Contra Costa County	1,000	≈7.5	1,700				Golf course school
4. Albers GPA, Contra Costa County (CCC)	74	≈6.25	240	9 acres (includes office)			Lake
5. Byron 78 GPA, (CCC)	78	≈6.25		21 acres	44 acres	13 acres office	
6. East Contra Costa Airport, (CCC)		≈3	Aircraft-related industrial uses allowed. (Parking for 400 aircraft; 6,000 feet of runway.)				
7. Tracy Hills, San Joaquin County (SJC)	5,862	≈3.8	10,212	479 acres commercial and industrial			Golf course
8. Safeway GPA (SJC)		≈2.5	Under construction				
9. Bay Cities GPA (SJC)		≈2.5	Under construction				
10. East Dublin GPA, Alameda County	7,200	≈16	4,153	1,879	578	6,280	
11. Johnson Properties, Alameda County		≈17			2,800		

Table 6.1-1 - *continued*

Project Name	Approximate Acreage	Distance from Mountain House (miles)	Total Residential Units	Retail Commercial (acres)	Service Commercial/ Industrial (acres)	Business Park (acres)	Other
12. Stoneridge Drive, Alameda County	293	≈17	489	457	1,189		114
13. Busch Property, Alameda County	90	≈17	750				
14. Trenery Drive, Alameda County	20	≈17	20				
15. Kaiser Sand and Gravel Reclamation	757	≈17	530		8 acres		
16. New Jerusalem Expanded Community	3,225	≈ 10	7,562	221	330	--	831 acres for open space and recreation, 268 acres for roads and utilities, 80 acres for schools
17. Tracy Station (pre-application)	266	less than 0.1	--	144.1	1.9 (motel)	--	109 acres for wastewater disposal, 11 acres for family recreation center
18. Tri State-Cheng General Plan Amendment (GPA)	326 (80 for initial GPA)	≈ 2	--	--	20 highway service and 60 light industrial	--	

Table 6.1-1 - *continued*

Project Name	Approximate Acreage	Distance from Mountain House (miles)	Total Residential Units	Retail Commercial (acres)	Service Commercial/Industrial (acres)	Business Park (acres)	Other
19. Tracy Highlands/Le Boeuf	1,450	≈ 2	3,000-6,000	221		--	
20. City of Lathrop General Plan	NA	≈ 15	≈ 8,600		6,100 jobs ³	--	--

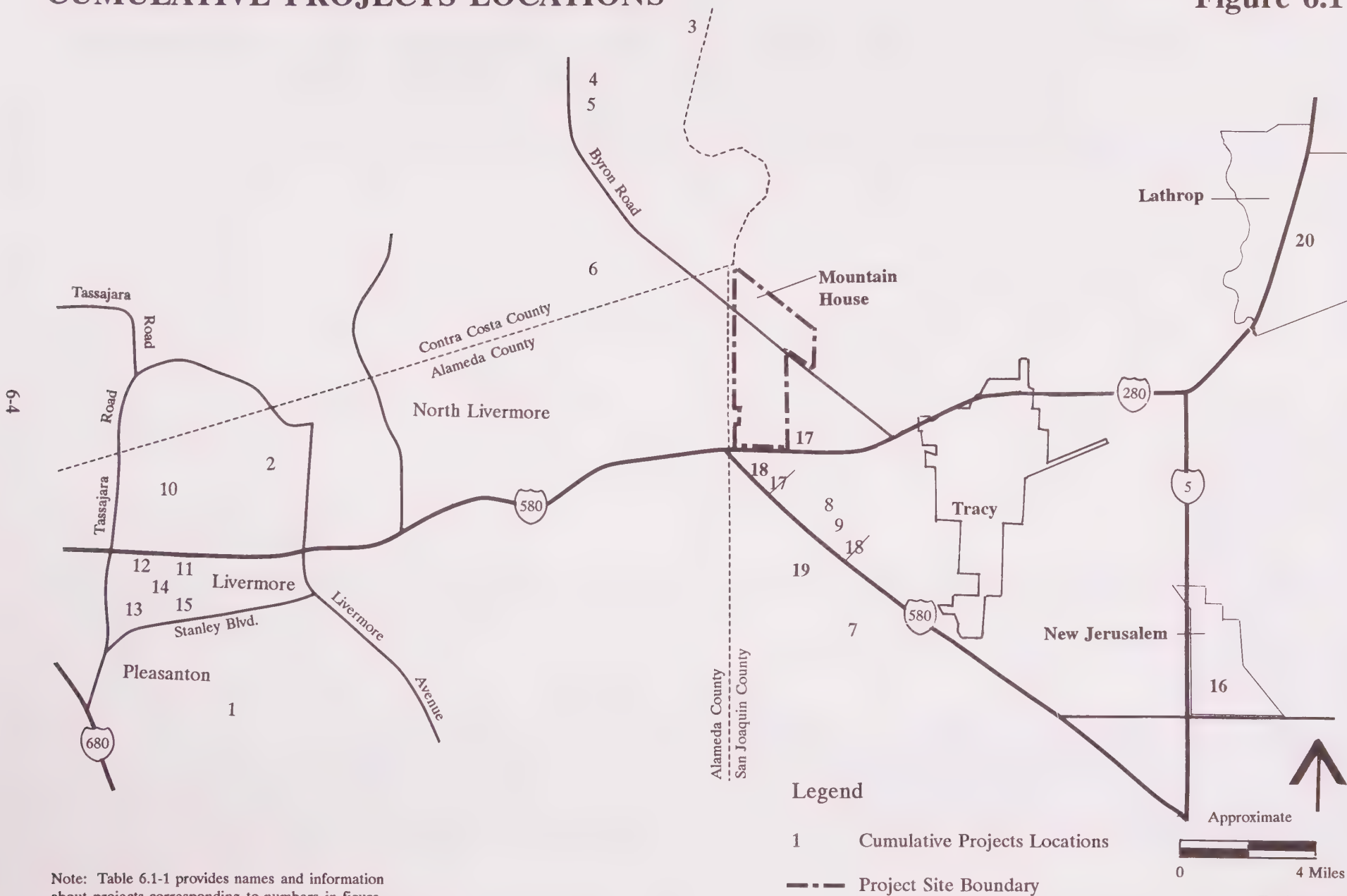
¹ Locations of all projects are shown in Figure 6-1.

² GPA = General Plan Amendment.

³ Includes jobs in all employment sectors.

CUMULATIVE PROJECTS LOCATIONS

Figure 6.1



Note: Table 6.1-1 provides names and information about projects corresponding to numbers in figure.

The Central Valley produces more than one-half of the nation's table grapes and almonds, and one-third or more of its peaches, cantaloupes, and walnuts. The Valley's agriculture accounts for approximately three-fifths of the State's \$17.8 billion farm industry. San Joaquin County's leading agricultural crops/products include grapes, almonds, alfalfa, and milk. The value of agricultural production in the County for 1989 was \$871,380,000 (San Joaquin County Agricultural Commissioner, 1990).

The average rate of urbanization in the Central Valley between 1974 and 1986 was approximately 12,000 acres per year, totaling more than 140,000 acres during this period (American Farmland Trust, 1989). The rate of urbanization in San Joaquin County during this period was 1,500 acres annually. In the Central Valley, the population has increased almost 50 percent within the past 20 years.

As urban development encroaches into agricultural lands, land use conflicts increase. Transplanted urbanites moving into the Central Valley to find cheaper housing object to noise, odors, dust, and chemical drift from farming operations. Conversely, farms experience theft, trespassing, illegal dumping of refuse, and free roaming dogs chasing livestock. Complaints from new residents eventually turn into more restrictions placed on the farmer. For example, if buffers are not provided along the perimeter of a development, the farmer may be forced to create a buffer resulting in a decrease in crop production. Farmers may have to limit activities that eventually decrease the profitability of farming. When profitability declines and land values increase as a result of encroaching urbanization, the impetus is created for the landowner to sell the land for development purposes.

The cumulative loss of agricultural land results in a loss of agriculturally-related jobs, reduces the agricultural economy, and forces agricultural operations onto less productive soils, thereby increasing operating costs to produce equivalent acreage.

Conversion of agricultural land in the Central Valley can be projected many ways. The American Farmland Trust bases its conversion rate on a population projection of 1.8 million people by the year 2010 (American Farmland Trust, 1989). Using an existing population/land use ratio of one acre of urban land for every twenty people, 90,000 acres would be converted in the Central Valley (American Farmland Trust, 1989). The proposed Mountain House project would contribute one-half of one percent of this projected conversion. Prime agricultural land is considered a natural resource under CEQA and loss of agricultural land is a significant impact which cannot be mitigated.

Mitigation Measures. San Joaquin County should consider imposing impact fees which can be used to purchase development rights or supports land trusts. Policies and regulations regarding such fees should be incorporated into the Revised Draft General Plan 2010. Counties within the Central Valley should expand areas zoned for agricultural use. LAFCO findings should be expanded to include the following discussion: the likelihood for removal of additional lands from agricultural production; consistency of projected population with General Plan projections; proximity of areas to be developed to existing urban centers; and

6.1 CUMULATIVE IMPACTS

consistency with planning policies and zoning. The State Department of Conservation should include, with their Prime Farmlands Map, recommendations for preserving prime agricultural land. A regional task force should be formed to establish incentive mechanisms to retain agricultural land in the Central Valley.

PUBLIC SERVICES

Parks and Recreation

The geographic area analyzed for cumulative recreational impacts include North Livermore Valley, Bethany Reservoir in Alameda County, San Joaquin County, and the City of Tracy. The 2010 growth projections identified in the Draft San Joaquin County Comprehensive General Plan (San Joaquin County, 1990a 1991d) were considered in determining recreational impacts. Potential development in the Livermore Valley could result in a population of 10,000 to 45,000 people (Table 6.1).

Development in southwestern San Joaquin County and in the City of Tracy would place tremendous demands on the existing County park system unless new development provides sufficient parkland and recreational facilities to meet this demand. On a countywide basis, an additional 3,160 acres of regional parks would be needed by 2010 (San Joaquin County, 1990b). Developers can set aside parkland or pay in-lieu fees to help defray the cost of land acquisition, equipment and manpower.

The demand for day use activities at Bethany Reservoir would significantly increase as development occurs in southwestern San Joaquin County and the Livermore Valley. As wind surfing gains popularity, the Bethany Reservoir would become an attractive location because of the high winds, warm temperatures in the summertime, and shallow waters. As the demand for park facilities increases, city, County and State park departments/districts would be required to hire additional personnel to monitor activities and park visitors.

Mitigation Measures. A regional recreational task force should be formed to develop funding mechanisms to expand and maintain regional recreational facilities. San Joaquin County, in conjunction with the cities in San Joaquin County, should develop a fee structure to finance regional parks. Current policies regarding regional parks should be reviewed and possibly revised.

Schools

The geographic area considered for cumulative school impacts consists of the Tracy ~~Joint Union High School District (TJUHSD) and the Lammersville Elementary School District (LESD).~~ Based on 2010 projections (San Joaquin County, 1990a), ~~each school district would incur substantial increases in the number of additional students. LESD would have an increase of 7,573 students, and TJUHSD would increase by 13,572 students.~~ **Planning Area as defined in the County's Draft General Plan (San Joaquin County, 1991d), with an emphasis on the Tracy Joint Union High School District (TJUHSD) and the Lammersville Elementary School District (LESD). The Mountain House project would be the primary project impacting the LESD because other projects within the District would be commercial or industrial**

projects. Significant impacts for LESD are not anticipated due to the proposal for on-site schools. Future 2010 growth could result in over 13,000 new high school students for the TJUHSD, which would require new schools (San Joaquin County, 1991d).

Providing that new developments pay their own way with the formation of Mello-Roos Districts or other funding, the school district does not anticipate significant cumulative impacts to the school system (Bernakis,

1991; Olds, 1991). Short-term impacts would occur to local schools until on-site facilities are completed to accommodate new students.

Mitigation Measures. School district officials should review development plans to ensure adequate school facilities are available when needed. Development plans calling for new school sites should be reviewed by school district officials to confirm size of facility, acreage for individual school sites, and verification that the correct student generation rate was used to calculate the size and extent of new facilities.

Fire Protection Service

The geographic area considered for cumulative fire protection services is the area served by the Tracy Rural Fire Protection District. ~~Potential development within the Fire Protection District would be limited. The Draft San Joaquin County General Plan (San Joaquin County, 1990a) projects a 2010 population that would be primarily located within the Tracy city boundaries, within the City's sphere of influence, and the New Jerusalem New Community located south of Tracy.~~ **The new communities of Mountain House and New Jerusalem, as well as the City of Tracy fringes are within this district.** Development within the City would be served by the City of Tracy Fire Department; within the new towns, fire protection service would be provided on-site. Under the General Plan scenario, the service area of the Tracy Rural Fire District would decrease as land is annexed to the City.

Mitigation Measures. The County's Draft Development Title ~~imposes~~ **proposes** development impact fees to be charged for new developments to finance construction of fire protection facilities. Community Service Districts and Community Facilities Districts should be established for new communities to fund added fire protection service.

Police Protection Service

The geographic area considered for cumulative police protection services consists of Old River and District 8 of the County Sheriff's Department. Patrol District 8 would include the New Jerusalem New Community, the Gold Rush City recreational park (**part of the City of Lathrop's General Plan**), **the Tracy Station pre-application, the Safeway and Bay Cities amendments, and the Tri State-Cheng Truck Stop in west Tracy amendment and the Tracy Highlands project.** **Growth proposed as part of the City of Tracy is expected to be served by city police services.**

Increased use of Delta waterways would place a greater demand on the Sheriff's Department's Boating Safety Division. Marine patrols would need to be increased. As development occurs within Patrol District 8, the Sheriff's Department would be unable to provide an urban level of service associated with the higher densities proposed by many developers. Community Services Districts (CSD) must be formed to offset the financial burden of increased costs. In establishing a CSD, the residents can choose a level of law enforcement based on assessment costs.

6.1 CUMULATIVE IMPACTS

Mitigation Measures. A Community Services District (CSD) should be formed to offset the financial burden of increased costs. In establishing a CSD, residents can choose the level of law enforcement based on assessment costs. Fees collected from the CSD should also be used to increase marine patrol services in the Delta during the summer months. Development fees similar to those assessed for fire protection service

6.1 CUMULATIVE IMPACTS

should be implemented for police protection service. A regional task force should be formed to study the potential for establishing a regional marine patrol unit to patrol the Delta waterways.

Libraries

The County is the geographic area analyzed for cumulative library impacts. To meet the 2010 population projections as defined in the *San Joaquin County Comprehensive General Plan EIR*, ~~1990~~ **1991**, a total of ~~48 libraries~~ **250,000 square feet of additional library space** would be required in the County. As new communities develop, such as Mountain House, the General Plan recommends that library facilities be considered in urban communities projected to have a least 5,000 people. If new facilities are not provided for in these developments, the existing libraries facilities would be significantly impacted. ~~A second branch library in Tracy would help to alleviate the heavy demand on the existing library.~~

Mitigation Measures. ~~A second branch library in Tracy would help to alleviate the existing and projected heavy demand on the existing library facility.~~ Development fees **for new residential development** should be assessed to help offset the costs of providing additional library facilities. **Such fees should be included in the County's Development Title, expected to be adopted in 1992.**

PUBLIC UTILITIES

The geographic area studied for cumulative impacts of public utilities, including water and wastewater services, is different for each issue of significance. Depending on the potential cumulative impact, the geographic area considered one of the following: the project site; an area downwind of the site; the Old River channel; the County; the surface water watershed or the groundwater basin(s); or a three-County area.

Water Demand That Exceeds Supply/Groundwater Overdrafting

The geographic area used to define the area that could be affected by cumulative growth seeking a water supply is the three-county area of San Joaquin County, Alameda County, and Contra Costa County. In this area, approved, pending, and proposed development projects would be developing strategies to fill the water demand through a combination of surface water, groundwater, reclamation and conservation, and other sources. Existing irrigation districts would be faced with requests to reallocate water used for agricultural irrigation to new municipal and industrial uses. If surface water resources were not adequate, development projects would turn to groundwater to meet the demand. Lack of adequate water supply is not an environmental impact in itself. However, impacts to groundwater could result if projects were to use groundwater pumping to supplement other supplies.

The geographic area considered for cumulative impacts resulting in groundwater overdrafting is the groundwater basin. If demand exceeds available surface water supplies, even with maximum wastewater reclamation under current regulations, proposed development could cause overdrafting of existing groundwater resources. Significant overdrafting can cause subsidence, decreased storage capacity in the groundwater basin, and reduced opportunities to use the groundwater to serve future water needs.

Mitigation Measures. In the San Joaquin County General Plan Update process, the policy implications of changing irrigation districts, which have historically served only agricultural water users, into multi-purpose water supply agencies should be addressed particularly for new town development in unincorporated areas. Analysis of the fiscal impact should be undertaken, especially regarding the potential pressure to equalize water rates which could affect preservation of farmland in San Joaquin County. Plumbing and building codes should be amended for Alameda, San Joaquin, and Contra Costa counties to require Best Management Practices for water conservation and wastewater reclamation. County policies for all three counties should be adopted to encourage maximum water conservation and reclamation. During the General Plan Update process, San Joaquin County should consider water supply on a regional, multi-county basis.

Wastewater Flows That Exceed Capacity

The geographic area under consideration is the project site. Since the project incorporates a wastewater treatment system that would serve only the proposed development, there would not be a cumulative impact of overburdening an existing wastewater system.

The geographic area relevant to disposal of treated effluent into surface waters is the entire length of Old River, including all discharges into the river. All uses with a permit to discharge into Old River impact the water quality. The Central Valley Regional Water Quality Control Board (RWQCB) regulates the quantity and quality of discharges into Old River to ensure that State and Federal water quality standards are met. The RWQCB limits additional discharges into Old River due to a concern about cumulative impacts on water quality in the river and the downstream Bay-Delta facilities, such as the Delta-Mendota Canal. On a cumulative level, discharges into Old River, as part of a project, could constrain future development and future discharges.

For disposal of treated effluent into the water reclamation system and use of reclaimed water for agricultural and landscaping irrigation, the area to assess for cumulative impacts would be the watersheds that intersect the project site. The project plus other projects in the watershed would impact water quality by causing runoff into surface water and groundwater. ~~No other projects within the project's watershed have been proposed.~~ Other approved, pending, and proposed projects faced with inadequate surface water supply to meet demands would look to reclamation as a water source (**e.g., Tracy Station pre-application**).

Cumulative impacts for sludge disposal would be considered on a countywide basis, since the County is obligated to provide sites within the County for solid waste disposal, including those accommodating sludge. The County Solid Waste Management Plan (SWMP) identifies disposal sites which are designed to accommodate buildout of the County. The integrated waste management planning process, currently under way, will update and replace the SWMP, and may change policies relating to sludge disposal, including potential out-of-county disposal options. **Sewage sludge is currently not accepted at any public landfills operated by San Joaquin County. A private landfill near Stockton has recently been permitted to accept sewage sludge (San Joaquin County, 1991d).**

Mitigation Measures. When updating the San Joaquin County General Plan, San Joaquin County should support the Central Valley Regional Water Quality Control Board by adopting policies to minimize, to the extent feasible, land use changes that would generate significant increases in wastewater discharges into Old River and other surface waters that drain into the Sacramento-San Joaquin Delta. **The proposed new communities in the County should identify adequate acreage for sludge treatment and/or disposal.**

Potential To Create a Public Health Hazard Related to Public Utilities

For cumulative impacts due to uncontrolled releases of hazardous or toxic chemicals, the project site, designated transportation corridors, and areas downwind from the site are considered. These areas represent locations where uncontrolled releases could occur near the treatment plants or while being transported by vendors to the site, and areas downwind of the site where airborne chemicals could migrate. The cumulative impact of public contact with hazardous materials would be similar to the potential impacts of the project.

The geographic area relevant to considering cumulative impacts to water resources is the watersheds that intersect the project site. The DEIR section on water quality addresses the cumulative effects on water quality due to uncontrolled releases of hazardous or toxic chemicals.

Mitigation Measures. San Joaquin County should cooperate with the California Department of Toxic Substance Control (DTSC) and Central Valley RWQCB in implementing reclamation projects, including agricultural and landscape irrigation, and groundwater recharge with reclaimed water, so that the public health of San Joaquin County residents is protected.

Storm Drainage

The geographic area for cumulative impact of increased stormwater discharges from urban environments on water quality consists of the southern Delta region. As additional areas become developed, the amount of discharged pollutants associated with an urban setting would increase correspondingly. It is difficult to assess the significance of the additional pollutant loading because of the scarce data and the large range of possible controls strategies that could be implemented. However, efforts are needed by every new community to minimize the amount of pollutants that may reach Old River and other Delta waters. Federal and State regulations governing the discharge of stormwater from large urban areas and from industrial sites are being implemented in California. Even small communities should be aware of these requirements and development should be planned in a way that would allow easy compliance with requirements that may be imposed on them in the future.

The storm drainage facility of the proposed Mountain House project would not be shared with other developments and, therefore, there is no cumulative impact. **However, the adjacent proposed Tracy Station project may want to share storm drainage facilities.** The cumulative impact of the increased volume of stormwater discharged into Old River is discussed in the Hydrology and Water Quality Section.

Mitigation Measures. New developments should be designed to minimize and control the discharge of pollutants associated with residential areas, with new construction, with industrial areas, and with transportation. Potential future regulatory requirements on stormwater discharges for small communities should be considered in the planning stages. Stormwater discharges from construction and industrial sites should be permitted in accordance with State and Federal regulations.

Increased Cumulative Demands for Gas and Electricity

The geographic area considered for cumulative impacts of increased demand for gas and electricity is San Joaquin County. The San Joaquin County 2010 Draft General Plan projects that a total of ~~92,782~~ **138,316** new residential units will be built between 1990 and 2010 (San Joaquin County, ~~1990a~~ **1991d**). ~~The projection does not include any new communities which are being considered in the Revised Draft General Plan now underway.~~ The Draft Environmental Impact Report (DEIR) for the General Plan projected an energy demand of ~~571~~ **850.6** million kilowatt-hours per year of electricity and ~~43.6~~ **65.0** million therms per year of natural gas (San Joaquin County, ~~1990b~~ **1991d**). ~~Electricity and natural gas energy demands may be thought of in terms of equivalent volume of automobile fuel. The projected cumulative energy demand would be equivalent to approximately 16 million gallons per year of automobile fuel for electricity demand and 35 million gallons per year for natural gas demand.~~

~~The energy demand of the Mountain House New Town would be in addition to that projected in the General Plan DEIR. The total projected residential energy demand for San Joaquin County, including the Mountain House New Town, would be approximately 700 million kwh per year for electricity and 52 million therms per year of natural gas. The energy demand for construction, commercial/industrial operations, agriculture, and street lighting is not included, but would likely exceed that for residential use.~~

In 1989, PG&E supplied 146,000 residences in San Joaquin County which used 1.1 billion kwh of electricity (San Joaquin County, 1990b). The Mountain House New Town would increase the number of residential units by approximately 16,000 or 11 percent of the number of residences served by PG&E in 1989. The yearly residential electricity demand for the Mountain House New Town represents approximately 12 percent of that served by PG&E in 1989. The Draft General Plan residential projections, combined with the proposed project, represent approximately ~~75~~ **95** percent of the residences served by PG&E in 1989, and the additional electricity demand represents approximately ~~64~~ **77** percent of the electricity served by PG&E to residences in 1989. The projected energy demand is a significant increase over the existing energy uses in San Joaquin County and would consume a large amount of nonrenewable resources.

Mitigation Measures. Energy conservation and alternative energy use measures recommended in the DEIR on the San Joaquin County Draft General Plan (San Joaquin County, ~~1990b~~ **1991d**) should be implemented in conjunction with those measures recommended for the proposed project.

Telephone

Cumulative impacts related to telephone service would not be significant or require mitigation. New development would be expected to be served by relevant service providers.

Mitigation Measures. None necessary.

CULTURAL RESOURCES

For the purpose of this analysis, the boundaries of San Joaquin, Alameda, and Contra Costa counties are the geographic area for the cumulative impact analysis for cultural resources. Future growth within these counties may create adverse impacts to cultural resources, similar to those that could occur with the proposed project.

Mitigation Measures. Test excavation, monitoring (such as recommended for the project), and/or ethnographic or historical studies would be appropriate to mitigate cumulative impacts to cultural resources.

GEOLOGY, SOILS, AND SEISMICITY

The geomorphic area is addressed for cumulative geologic and seismic hazards in San Joaquin County. Cumulative impacts to agricultural soils are addressed above under Land Use. The proposed project would bring an estimated 43,636 people to the project site. Future growth projected for San Joaquin County would further attract people to this relatively seismically active region. Increased population could be exposed to earthquake hazards due to failure of infrastructure, non-structural damage, fire, and flooding. Although many of these potential hazards can be mitigated, as discussed in Section 4.6, cumulative development in western San Joaquin County would expose new populations to moderate geologic hazards.

Mitigation Measures. Mitigation measures recommended for the proposed project in Section 4.6, should be implemented for similar impacts associated with cumulative development.

HYDROLOGY AND WATER QUALITY

The proposed project and other future development along Old River would influence hydraulic characteristics of the southern Delta region. For purposes of the analysis of the cumulative impacts, the southern Delta area is defined as the Old River channel from Tom Paine Canal (approximately nine miles upstream of the project site) to the Victoria Canal (approximately three miles downstream of the project site). At the present time, no other specific projects have been proposed along Old River.

Increased Flow Velocity in Old River

Increased runoff within the south Delta related to development of increased areas of impervious cover may cause increased flow velocities within Old River during flood events. The higher flow velocity could cause erosion of the river bed and levees which contain the flow. Erosion of the levees could contribute to destabilization of the levees and possible levee failure. The development of the project could cause an increase in flow velocity in Old River west of the project from 2.72 to 2.87 cubic feet per second (cfs) and north of Grantline Canal from 4.87 to 4.91 cfs. These flow velocities would be sustained over short periods of time and present minimal risk to the levees. However, each development project within the Old River drainage basin could cause incremental increases in the flow discharges and velocities in the river, causing a significant cumulative adverse impact on levee stability.

The development of the marina, proposed as part of the project, could also result in incremental changes in the water surface area within the southern Delta. The increase in surface area would increase the volume of tidal water within the Delta. The increased volume of tidal water would result in increased flow velocities during ebb tides. Addition of the marina would cause an estimated increase in flow velocity in Old River from 1.16 feet per second (fps) to 1.42 fps if the tide gate proposed by DWR for Old River is installed (Appendix 10.12). The increase would be from 0.58 to 1.05 fps if the gate is not installed. Increases in flow velocities would be attenuated further away from project site. North of Grantline Canal, the increase in velocity would be from 2.26 to 2.30 cfs without the tide gate on Old River and from 1.43 to 1.44 cfs with the gate. These increases in velocity may result in limited localized erosion of the riverbed. Limited scour would be a beneficial impact, contributing to removal of sediment accumulating in the river at the marina outlet.

Increased Flood Stage in Old River

Increased development within the drainage area of Old River would increase flood discharges and flood stages in Old River as the result of increases in runoff from impervious surfaces. The increased flood elevations could increase the potential for overtopping or failure of levees.

Increased Boating

The development of the project marina would contribute to increased boating within the south Delta. Boat wakes have been identified as a significant contributing cause of levee erosion within the Delta. Erosion of the levee slopes can destabilize the structure, increasing the potential for levee failure.

Mitigation Measures. Levee stability impacts could be mitigated by appropriate design and maintenance of the south Delta levees as recommended by the DWR's Delta Flood Hazard Mitigation Plan. County policies and regulations, including Section 9-1135 of the County Development Title, which require appropriate control of storm drainage in new developments should be applied to all future projects. The potential impact of increased boating could be mitigated to an insignificant level by establishing and enforcing appropriate boat speed limits, which reduce wake production.

VISUAL QUALITY

Cumulative visual quality impacts could be significant if additional projects were proposed in the immediate vicinity of the proposed project **such as the Tracy Station pre-application for commercial development adjoining I-205.** ~~However, the nearest currently proposed (or under construction) project would not be visible from either I-205 or other roads from which the project would be visible. Therefore, no significant cumulative visual impacts would occur.~~ **The Tracy Station and proposed project could significantly alter this visual gateway to San Joaquin County.**

Less-than-significant cumulative visual impacts would occur for eastern Alameda, southeastern Contra Costa, and western San Joaquin counties where new development would replace agricultural lands and open hillsides visible from major roads. Some of these roads are designated scenic routes. A general rural ambience which currently exists would be replaced with suburban growth. This growth could create an east-west development "corridor" along I-580 and I-205 stretching from Pleasanton in Alameda County to Manteca in San Joaquin County.

Mitigation Measures. Mitigation measures to reduce the associated visual impacts of growth along I-580 and I-205 would be similar to those recommended for the proposed project which include: extensive setbacks of development from the freeway; landscaping with evergreen trees to screen development from view; and, continuation of agricultural operations adjacent to the freeway to maintain the existing rural ambience. Permanently-protected open space at the edges of new development would also mitigate potential visual quality impacts.

FISCAL IMPACTS

The area of analysis for cumulative fiscal impacts is San Joaquin County. As noted in Fiscal Impacts (Section 4.9), the County has begun to experience fiscal constraints in that nondiscretionary expenditures are rising more rapidly than General Fund revenues. This trend is anticipated to continue as the County grows (Economic and Planning Systems, 1989). By possibly requiring General Fund expenditures that are not entirely offset by revenues, development of the proposed project could exacerbate the inability of the County to adequately finance its General Fund programs. In addition, four other new communities are proposed for development in the County's unincorporated area over the next two decades. If each of these New Towns likewise exhibits an inability to "pay its own way," then the County could face a fiscal crisis that may adversely affect county-provided services and the maintenance of county-provided capital facilities, potentially leading to service shortfalls and the physical deterioration of County roads and buildings.

Mitigation Measure. The County should ensure that, as a condition of receipt of development entitlement, all unincorporated new communities have the monitoring mechanisms and special districts in place that would prevent each new town from incurring a net General Fund deficit. These monitoring mechanisms and special districts should be identified and approved by the County at the Specific Plan stage of the development approval process.

FINANCIAL IMPACTS

Some cities (e.g., Tracy) and special districts have issued bonds for public facilities that are currently being retired with monies, such as Mello-Roos special taxes, coming from new development. This debt retirement may be hampered by the slowing of construction rates caused by competition from unanticipated projects such as the proposed new towns. The extent of this impact would depend upon the bonds' debt retirement schedules, the extent to which these bonds rely upon development-generated revenues, and the extent to which these unanticipated projects compete with the development that is being used to retire the bonds. The potential significance of these impacts is unknown.

POPULATION, HOUSING, AND EMPLOYMENT

The area of analysis for cumulative impacts related to population, housing and jobs is San Joaquin County. Cumulative development proposed for San Joaquin County has the potential to 1) exacerbate the County's existing imbalance between jobs and housing, which could result in a larger percentage of out-commuters, and 2) affect development trends within existing incorporated areas. The additional supply of housing units, however, would help ensure that housing in the County remains affordable for its resident labor force.

Over the next two decades, four other new communities in addition to the project are proposed to be built in San Joaquin County. If approved for development, these projects could dramatically affect the geographic distribution of population and employment growth within the County. Two broad scenarios bracket the range of possible future growth.

The first scenario, defined as "dispersed," assumes that the new communities do not generate additional county-wide development above the year 2010 projections that have been previously prepared for the Draft County General Plan 2010. The effect of this scenario is to distribute to the new communities a percentage of the growth that would otherwise have occurred in the existing cities.

The second scenario, defined as "supply pull," assumes that the new communities are able to attract households and businesses that otherwise would not have considered moving to the County. At its most extreme, this scenario entails 1) the existing incorporated cities developing at a rate similar to the rate that would occur if no new communities were built, and 2) partial development of the new communities. Given that the proposed new communities are likely to draw development from the existing cities, however, the extreme supply-pull projection is the least probable of the future growth scenarios that the County faces.

Under the dispersed scenario, the County as a whole would have a population of 751,000, 270,100 dwelling units, and 296,400 jobs. Approximately 74,000 persons would reside in the five proposed new communities, thereby reducing potential residential development for the cities by 10 percent. The relative impact on potential city employment levels would be much less, being reduced by approximately 10,800 workers, or four

6.1 CUMULATIVE IMPACTS

percent of the projected city workforce. Assuming 1.2 workers per household, the year 2010 countywide ratio of employed residents to jobs would be 1.09, which is slightly higher than the 1990 ratio of 1.06.

Under the supply pull scenario, countywide growth would rise by an additional 28,800 dwelling units over the projected 2010 baseline level of 270,100 dwelling units. Likewise, total jobs would rise by 14,300. Because homes in the new communities are anticipated to develop at a faster rate than jobs, the countywide ratio of employed residents to jobs would rise from 1.06 to 1.12.

Mitigation Measure. For cumulative growth, especially for the proposed new communities in unincorporated areas, each phase of development should be approved after verification that a ratio of 1.0 employed residents per job can be achieved. Projects should only be approved at specific phases.

PUBLIC HEALTH AND SAFETY

The geographic area considered for the evaluation of cumulative public health and safety impacts is San Joaquin County. Expected development within the County, including the Mountain House New Community, would result in an increase in the handling, storage, and disposal of hazardous materials. An increased potential for the release of these potential environmental contaminants would increase the potential for people to be exposed to adverse health and safety effects associated with some of these materials.

Development within areas where contaminants have been released as the result of past land uses, such as from hazardous materials storage areas or agricultural chemical application to fields, could also increase the potential for exposure of people to toxic or otherwise hazardous materials. Exposure of people to the impacts of electromagnetic fields would be expected to increase with increased development within the County.

Mitigation Measures. San Joaquin County should develop regulations requiring that preliminary environmental assessments should be performed at all sites for proposed development. If the preliminary assessment identifies past or present sources of contamination, remediation of the site should be required as a condition for development. The California Environmental Protection Agency should develop, in conjunction with other Federal, State, and local agencies, a program to evaluate the potential impacts of residual agricultural chemicals on people living in areas converted from agricultural to residential land uses. The San Joaquin County Public Health Department (SJCPHD) should establish a program for private well water quality testing. The residents of properties adjacent to wells identified as contaminated should be notified by the SJCPHD.

BIOLOGICAL RESOURCES

The geographic area addressed for cumulative impacts to biological resources includes southern San Joaquin County. The loss of prime foraging area in southern San Joaquin County for the Swainson's hawk and other highly mobile avian and mammalian predators would reduce the number of individuals in each species group

due to the lack of food source. Loss of wetland areas at the project site and other sites in the southern portion of the County would result in a loss of wet meadow foraging habitat for many water bird species that annually migrate through the site. Cumulative development would reduce habitat for the kit fox.

The productive fish nursery habitat along the southwest shore of Old River would be lost not just to fish in that immediate segment, but most likely to many others up and downstream that presently invade the project shore region in spring to spawn. Pollutants from a large marina complex would be transported both up river and down river through tidal and normal water flow action that affect outlying river habitats.

Mitigation Measures. The County should develop Countywide Habitat Conservation Plans for Swainson's hawk and the kit fox. Stringent zoning controls should be imposed in areas of biological significance.

TRANSPORTATION

The impacts of the project are compared to a future cumulative scenario based on the 1991 San Joaquin County Council of Government's (SJCCOG) travel demand model (revised by DKS Associates in 1991 for use in General Plan Update). The 1991 SJCCOG model was used to evaluate the project's trip generation, the portion of the trip generation that would remain internal to the project site, and the distribution of external trips on the roadway network.

The 1991 SJCCOG model was developed by modifying the San Joaquin County traffic forecast model previously prepared by SJCCOG. This involved expanding the County model to include, at an aggregate level of detail, Stanislaus County, the nine-county San Francisco Bay Area, the Sacramento region, and the region east of the County including Amador County, Calaveras County, and Tuolumne County. The purpose of expanding the model was to improve the estimation of trips to and from the counties adjoining San Joaquin County. Also, within San Joaquin County, traffic analysis zones were added within the Mountain House project area and other possible "new towns" to improve traffic estimation capabilities for those areas. To incorporate these changes, trip generation rates and trip distribution fraction were also modified while most other model inputs were retained. The enhanced model was successfully validated by applying it to 1990 land use/socio-economic data and comparing resulting model volume estimates to actual traffic counts throughout San Joaquin County and at County gateways. The expanded model was then used for forecasting the travel demand of the project and project alternatives by incorporating the appropriate San Joaquin draft General Plan land use and highway network assumptions for 2010, along with most recent available 2010 land use and network assumptions from Stanislaus County, the Metropolitan Transportation Commission (for the Bay Area), and the Sacramento Area Council of Governments.

Mitigation Measures. Mitigation measures identified for the proposed project in Section 4.14 also address cumulative traffic increases.

AIR QUALITY

The project is part of a pattern of urbanization within the San Joaquin Valley air basin that has important implications for regional air quality. The *1991 Air Quality Attainment Plan* (SJVUAPCD, 1991b) and *San Joaquin Valley Unified Air Pollution Control District PM-10 Nonattainment Area Plan* (SJVUAPCD, 1991a) are recent attempts to forecast future air quality trends and develop control strategies to bring air quality into compliance with the Federal and State ambient air quality standards. Even utilizing all feasible and available control measures, attainment of the ozone, carbon monoxide, and PM-10 standards in the San Joaquin Valley air basin is not forecast in this decade. A major impediment to attaining these standards is projected growth in population and employment within the air basin.

Table 6.1-2 shows the population and employment projections for the eight-county San Joaquin Valley air basin that were utilized in the State and Federal nonattainment plans. Through the year 2000, the project would account for 2.5 percent of the population growth in the air basin and 2.9 percent of the employment growth.

Table 6.1-3 shows projected emissions of ROG, NO_x and PM-10 for the San Joaquin Valley air basin from 1987 through 2000 assuming implementation of all feasible control measures developed in the nonattainment plans for the region. While year 2000 emissions are lower than year 1987 emissions (28 percent for ROG, 29 percent for NO_x and 10 percent for PM-10), attainment of the standards requires much larger reductions in emissions. For ROG and

NO_x, these reductions are far less than 65 percent reductions mandated in the California Clean Air (based on 1987 emissions). These projections show, that in the absence of new State and Federal air quality programs, regional ozone and PM-10 air quality in the San Joaquin Valley air basin would gradually improve, but not sufficiently to meet the State and Federal standards by the next century.

The San Joaquin Valley air basin is also nonattainment for carbon monoxide (CO), but violations of the ambient air quality standards are limited to four urban areas: Stockton, Modesto, Fresno, and Bakersfield. These areas are not predicted to attain the State and Federal ambient air quality standards for carbon monoxide by the year 2000 (SJVUAPCD, 1991b), but the project's contribution to traffic volumes at these four locations would be so minute that the project would not be considered to contribute to cumulative impacts on carbon monoxide levels at these locations.

TABLE 6.1-2

SAN JOAQUIN VALLEY AIR BASIN POPULATION
AND EMPLOYMENT PROJECTIONS

Year	Population	Employment
1990	2,679,400	1,043,896
2010	3,495,304	1,405,910

Source: SJVUAPCD, 1991b.

Mitigation Measures. Similar mitigation measures prepared for the project (i.e., land use mixes to promote non-vehicular travel) should be implemented for all cumulative growth. The County should develop a fee system for all new development, with funds to be used to mitigate air quality impacts (e.g., park-and-ride lots, inspection programs for automobiles, installation of air pollution control equipment, inspections of farm equipment, and new staff for SJVUAPCD).

TABLE 6.1-3

**SAN JOAQUIN VALLEY AIR BASIN
PROJECT REGIONAL EMISSIONS**

Year	Emissions in Tons/Day		
	ROG	NOX	PM-10
1987	750	586	1,085
1994	662	531	1,109
1997	672	523	1,019
2000	679	530	984

Notes: ROG = Reactive organic gases.
NOX = Nitrogen oxides.
PM-10 = Particulate matter, ten microns.
SOX = Sulfur oxides.

Source: SJVUAPCD 1991a, 1991b.

NOISE

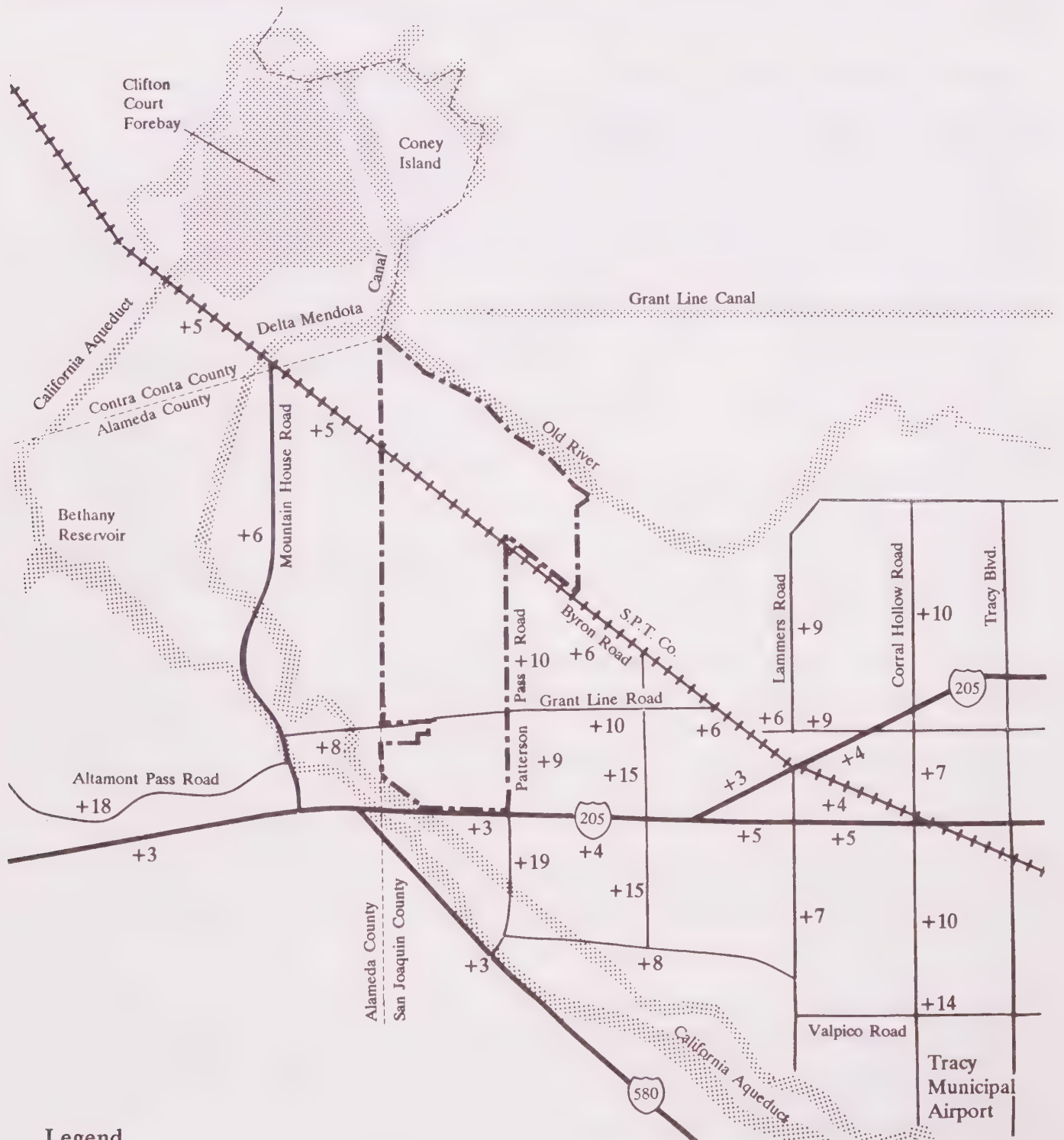
The geographic area used in the assessment of cumulative impacts is the area for which traffic data at project buildout (2010) were available (DKS, 1991). The proposed project analysis takes into account future cumulative growth. Therefore, mitigation measures recommended for the project would also be appropriate for some cumulative impacts.

In the future, noise level increases along main access roads to the project site would be mostly due to the proposed project. Noise levels would increase along streets leading to the City of Tracy due to additional traffic generated by the other development (Figure 6.2). Noise level increases, relative to existing noise levels, due to cumulative growth in the area would range between 3 and 18 dB (Figure 6.2). The most significant noise level increases would be along Altamont Pass Road (18 dB), Hansen Road (15 dB), portions of Patterson Pass Road (9 to 19 dB), and Valpico Road (14 dB). Other streets in and around the City of Tracy would also experience significant noise level increases (Figure 6.2). Increases in noise levels above 5 dB are considered to be significant. Existing residences along streets experiencing noise level increases above 5 dB would be potentially impacted. Roads experiencing noise level increases above 10 dB currently carry very low traffic volumes.

Mitigation Measures. The County should use noise policies contained in the Noise Element of the General Plan to evaluate potential noise impacts associated with proposed projects. Projects to be located in areas showing large noise increases (Figure 6.2) should require noise studies to quantify the project contribution to the future noise environment. If the noise impacts associated with a specific project are found to be significant, mitigation measures should be proposed to reduce the impact.

CUMULATIVE ANALYSIS AREA FOR NOISE IMPACTS

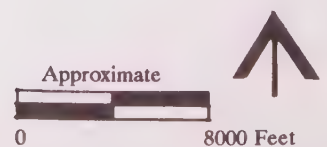
Figure 6.2



Legend

+5 Existing (1990) to
Future Noise Level
Increase (dB)

--- Project Site Boundary



Substantial growth in the study area is anticipated over the next 20 years. As a result of proposed developments, the character of the greater area would change significantly and some of the noise impacts would be unavoidable. However, the County should use its noise policies to allow for proper planning and minimize noise impacts associated with future development.

New, more restrictive noise and land use compatibility criteria for all proposed land uses should be adopted by the County to match criteria of the State of California, at a minimum.

6.2 GROWTH-INDUCING IMPACTS

The Mountain House New Town has been planned with a mix of land uses to be a "self-contained community" and, thus, to minimize growth-inducing impacts. However, over time, development in this agricultural area could expand beyond the boundaries of the New Town due to both economic and environmental factors. Agricultural lands at the edges of Mountain House would likely increase in value due to the proximity of urban infrastructure and development. Potential land use conflicts between urban and agricultural areas (i.e., odors, noise, trespassing) could discourage farmers from continuing their agricultural operations. While existing zoning and General Plan designations show agricultural use for the surrounding lands, private landowners could, over time, request amendments and rezoning as has been done for the proposed project. **Such requests could also occur if water rights of the Byron-Bethany Irrigation District were reduced and water supply for surrounding agricultural operations were restricted, as discussed in Section 4.4-1 of the DEIR under Impact 4.4.1-3.** As discussed in the Land Use section of this DEIR (Section 4.1), a number of surrounding property owners have already expressed a desire to develop their lands should Mountain House be approved. **In late 1991, a pre-application for a 157-acre development (Tracy Station) adjacent to the southeast corner of the project site was filed in San Joaquin County.** County decision-makers could approve such rezoning or amendments on the grounds that the new development would abut existing development at Mountain House.

Growth-inducing impacts could also result if the on-site water and wastewater plants were sized with a greater capacity than that needed to serve the project. If these plants were built at the outer edges of the site, adjoining landowners could easily connect new water and wastewater lines to the project's facilities.

Growth-inducing impacts of the project would be unavoidable. The only way to minimize growth-inducing impacts would be to have agricultural or open space buffer zones on two sides of the project that have deed restrictions limiting development for perpetuity (e.g., via an agricultural land trust). These buffer zones should be included at the time of the General Plan amendment on the west and east sides of the project. On the east side of the project, off-site acreage could be purchased by the applicant on the east side of Patterson Pass Road so that on-site development would not be significantly reduced. Interstate 205 and Old River would be adequate buffers to minimize growth-inducing impacts to the south and north of the

6.2 GROWTH-INDUCING IMPACTS

project site, respectively. The costs of extending infrastructure across these two barriers would deter new development. In addition, the project could place the water and wastewater plants in a more central location to the site. However, such relocation could have other impacts related to noise and odors. The on-site water and wastewater plants should be sized to serve no more than the projected on-site population.

6.3 RELATIONSHIP OF SHORT-TERM USES OF THE ENVIRONMENT VERSUS LONG-TERM PRODUCTIVITY

The development of the Mountain House New Town would remove 4,667 acres from agricultural use. About 77 percent of this acreage has been identified as Prime Farmland. Thus, the long-term productivity of this farmland would be eliminated by the proposed project. The farmland's value as wildlife habitat for the Swainson's hawk and other species would also be eliminated by the project. According to the applicant, the proposed General Plan amendment and ultimate development of the project would be justified at the present time due to the demand for housing and employment in this part of San Joaquin County, and the economic benefits (i.e., employment opportunities and tax revenue) that would accrue over the projected buildout period. These justifications should be carefully evaluated in light of the current proposal for five new/expanded communities within the County, the amount of vacant acreage at city fringes which is already designated for urban uses, and the potential for costs exceeding revenue at buildout as identified in Section 4.9 of the DEIR.

6.4 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

The unavoidable adverse impacts that would result from the proposed Mountain House project include the following:

- Removal of about 3,600 acres of Prime Farmland;
- Unacceptable levels of service for traffic;
- Increased emissions of ozone precursors and total suspended particulate matter; ~~and~~
- Temporary construction-noise;
- **Growth-inducing impacts; and**
- **Increased public exposure to the effects of explosions and/or chemical releases from train accidents.**

6.5 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Approval of the requested General Plan Amendment for the Mountain House site and ultimate development of the site would result in the following irreversible changes to the environment:

- Conversion of 4,667 acres of agricultural land and wildlife habitat to residential, commercial, industrial, and recreational uses;
- Degradation of air quality associated primarily with increased automobile travel generated by the project, in conjunction with cumulative traffic increases; and
- Commitment of non-renewable energy resources for vehicular travel, construction activity, and indoor climate controls.

7.0 MITIGATION MONITORING PROGRAM

7.0 MITIGATION MONITORING PROGRAM

INTRODUCTION

This Mitigation Monitoring Program has been prepared in compliance with Section 21081.6 of the Public Resources Code. Section 21081.6 states that "when making the findings required by subdivision (a) of Section 21081(1)" or "when adopting a negative declaration pursuant to paragraph (2) of subdivision (c) of Section 21080, the public agency shall adopt a reporting or monitoring program for the changes to the project which it has adopted or made a condition or project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring shall be designed to ensure compliance during project implementation." Monitoring is not required for impacts that are not significant. Therefore, this monitoring program only addresses significant impacts associated with the project, and identified in the EIR.

The recommended mitigation measures will require monitoring by San Joaquin County Community Development Department and a number of other agencies (Table 7.1). Under the provisions of Section 21081.6, San Joaquin County, as lead agency, can assess the applicant a fee for the monitoring program. Alternatively, the applicant can retain independent consultants to complete a number of the monitoring measures, as appropriate. The components of the monitoring program include the following (Table 7.1):

- Summary of significant impacts identified in the Environmental Impact Report;
- Mitigation measures recommended for each significant impact;
- Monitoring requirements for each mitigation measure;
- Person/agency responsible for the mitigation measure monitoring;
- Timing or frequency of monitoring.

Reporting of the monitoring activities will be required to verify that monitoring has taken place. To facilitate an efficient oversight program, this DEIR recommends that the San Joaquin County Community Development Department maintain all reporting form files, even though additional agencies may also have their own records. The applicant would be responsible for a number of the recommended mitigation measures. However, only that person or agency responsible for ensuring compliance with the mitigation measures is identified in Table 7.1. All monitoring requirements are identified in Table 7.1.

7.1 MITIGATION MONITORING PROGRAM
Land Use and Agricultural Issues

TABLE 7.1

SUMMARY TABLE FOR MITIGATION MONITORING PROGRAM

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ LAND USE AND AGRICULTURAL ISSUES				
4.1-1 Development of the proposed project would result in the loss of approximately 3,600 acres of Prime Farmland and would require cancellation of 2,920 acres currently under Williamson Act contract. Cancellation could result in the premature loss of this resource.	4.1-1(a) The loss of 3,600 acres of Prime Farmland is an unavoidable adverse impact. The only full mitigation measure for the above impact would be denial of the proposed project.	None necessary.	---	---
	4.1-1(b) All required findings must be made by the Board of Supervisors in order to approve the Cancellation of the Williamson Act contracts.	Review at time of Specific Plan .	SJCCDD	GPA
	4.1-1(c) The applicant should be assessed an impact fee for each acre converted to an urban designation (whether residential, industrial, or commercial use) to be applied toward the purchase of development rights on agricultural lands or to support land trusts that purchase conservation easements on agricultural land. Such a fee system should be identified in the County's Development Title in compliance with the recommended policy supporting such a fee as included in the County's Revised Draft General Plan 2010 (San Joaquin County, 1991a).	Review at time of adoption of the County's Development Title.	SJCCDD	Once at Development Title adoption stage.

Note: Any reference to a **Specific Plan** requirement in the following table includes one or more of three subsequent plans that will be required by the County after action has been taken on the General Plan Amendment. The earlier Specific Plan process is now composed of the following three detailed plans: 1) a **Public Services and Facilities Plan**, 2) a **Public Financing Plan**, and, 3) one or more **Specific Plans**. The public services and facilities plan and the public financing plan will be community-wide in scope, while specific plans may be submitted according to phasing or ownership considerations.

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.1-2 Conflicts between urban/rural land uses would occur, particularly where agricultural operations abut residential development. Such conflicts could result in conversion of agricultural lands outside the project site boundaries to non-agricultural uses.	4.1-2(a) A 1,000 foot-wide buffer area should be provided along the western boundary of the project site and included in the proposed General Plan amendment. This buffer could incorporate non-residential uses such as the golf course, an equestrian center, a trail system, and/or a regional park. A roadway could extend through this buffer. The buffer area could also accommodate an agricultural park whereby residents of the new community could have individual plots for raising fruits and vegetables, or a single operator practicing organic farming could use the land. If adjoining lands in Alameda County eventually convert to urban uses, the recommended buffer area could be developed for other uses when it is no longer needed. Alternatively, the recommended buffer area could have development rights permanently restricted by use of a conservation easement or placement of the buffer acreage in an agricultural land trust.	Review of final GPA request. At the time of the Specific Plan, land uses could be reviewed.	SJCCDD	GPA and SP
	4.1-2(b) Fencing should be installed along the perimeter of the western boundary to prevent trespassing and littering.	Fencing locations, standards and material should be specified in the Specific Plan. Installation to occur as a condition of development application.	SJCBD	C (once) SP and C
	4.1-2(c) The deed of each newly created parcel in proximity to agricultural operations should include a clear statement to inform new buyers that they are purchasing land or homes in an agricultural area.	Provide County with sample copies of deeds for parcels within 1,500 feet of agricultural operations as a condition of tentative map approval.	SJCCDD	PC

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; **(includes Tentative Map approval or and Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.1-2(d) On-site residents should be notified that the County has adopted a Right-to-Farm ordinance to protect farmers from nuisance suits as a result of normal farming practices. The County should enforce this ordinance and ensure that proper farming practices occur to minimize conflicts.	Above deeds should include notification. Monitor complaints.	SJCCDD	PC and O (annually)
	4.1-2(e) Deleted			
4.1-3 Land use conflicts between proposed on-site land uses and adjoining land uses could result from odors and noise associated with agricultural practices, traffic, and on-site activities.	4.1-3 All recommended mitigation measures for potential odor and noise impacts, as described in Sections 4.15 and 4.16 of this DEIR, should be incorporated into the proposed project.	Refer to Section 4.15 and 4.16.	---	---
4.1-4 The Delta-Mendota Canal and on-site irrigation canals could present a public safety hazard without proper fencing and screening.	4.1-4 Project plans should incorporate fencing and cautionary signage of major waterways, particularly where the canals and irrigation channels are in close proximity to residential areas.	Fencing locations, standards, and materials should be specified in the Specific Plan. Installation to occur as a condition of development application.	SJCBD	C (once) SP and C
4.1-5 The project site would be subject to frequent overflights of airline traffic using the East Contra Costa County Airport. The project area is located in proximity to the traffic pattern area for the airport. Runway alignment may cause landing and takeoff approaches to occur over the project site.	4.1-5 The Specific Plan should incorporate land uses that are less sensitive to airport-related noise on those portions of the site nearest the flight path. For example, the proposed low-density residential uses in the southwest portion of the project site should be replaced with commercial or industrial uses. The recommended 1,000-foot buffer area (Mitigation Measure 4.1-2(a)) would partially mitigate this impact if provided on-site. Additionally, policies should be incorporated into the Specific Plan limiting building heights which may be located in the flight path. If land uses are changed at the Specific Plan stage, an additional General Plan amendment may be necessary.	Review at SP stage.	SJCCDD	SP and PC

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ ZONING AND GENERAL PLAN POLICIES				
4.2-1 The project would conflict with many of the County's proposed policies of the Revised Draft General Plan 2010 as well as with policies of the adopted Land Use/Circulation Element of the General Plan.	4.2-1(a) The removal of Prime Farmland is a significant unavoidable adverse impact that cannot be mitigated. The only mitigation measure that could result in compliance with the County Policy to preserve prime agricultural land would be denial of the project or approval of the project at an alternative location. Aside from this one conflict with County policies, the remaining recommended mitigation measures would reduce the impact to a level of insignificance.	None necessary.	---	---
	4.2-1(b) If the project were approved at the proposed project site, the following mitigation measures should be required to protect on-site and adjoining agricultural lands: a 1,000-foot wide buffer at the site's western edge; notification of property owners regarding the County's Right-to-Farm Ordinance; project contributions towards an agricultural land trust; inclusion of lands designated for agricultural use within the project site boundaries; and redesignation of vacant lands from urban to agricultural use elsewhere in the County. The County currently has a private, non-profit farmland trust which can accept donations to be used for the permanent protection of farmland. A policy to support this trust is included in the Revised Draft General Plan 2010.	Refer to mitigation measures in Section 4.1.	---	---
	4.2-1(c) To create an urban center for the project, the core commercial areas of the project should be able to exceed the 45-foot height limit under special circumstances (e.g., provision of underground or structured parking within commercial buildings or inclusion of affordable housing in mixed-use areas).	Review at Specific Plan stage.	SJCCDD	SP
	4.2-1(d) Additional neighborhood commercial centers should be included. Three school/park areas at the site's western boundary should be relocated farther east to be more central to residences.	Review of Final GPA request at SP stage.	SJCCDD	GPA SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval or and Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

7.1 MITIGATION MONITORING PROGRAM
Zoning and General Plan Policies

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.2-1(e) A new pedestrian plan should be developed which includes pedestrian paths following open space corridors and connecting neighborhood commercial centers and primary employment areas.	Review at Specific Plan (SP) stage.	SJCCDD	SP
	4.2-1(f) Bicycle paths should follow open space corridors and roads that are two-lane as well as four or more lanes.	Review at SP stage.	SJCCDD	SP
	4.2-1(g) Agricultural and landscaped buffer areas should be included in the proposed project to maintain Mountain House as a distinct community and to minimize growth-inducing impacts.	Review of Final GPA request and SP at SP stage.	SJCCDD	GPA and SP
	4.2-1(h) Identifiable neighborhoods that would accommodate 3,000 to 5,000 residences should be included at the Specific Plan stage.	Review at SP stage.	SJCCDD	SP
	4.2-1(i) The Specific Plan for the project should include provisions for multi-family residential uses above ground-floor retail uses.	Review at SP stage.	SJCCDD	SP
	4.2-1(j) Neighborhood commercial areas should be sized to include only those commercial uses needed for its target neighborhood.	Review at SP stage.	SJCCDD	SP
	4.2-1(k) If a Community Commercial area is to be located north of Byron Road, more intensive office, residential, and retail uses should surround this area. Alternatively, only one Community Commercial district should occur. This district should be located within the project's central business district.	Review of Final GPA request.	SJCCDD	GPA
	4.2-1(l) The Specific Plan should identify landscape buffering at the edge of the General Commercial areas.	Review at SP stage.	SJCCDD	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
<p>4.2-2 The project could result in the redirection of growth away from urban and rural communities identified in the County's General Plan. The project's estimated population represents 42.6 percent of the growth projected for the entire Tracy Planning Area without the new communities of Tracy Hills and New Jerusalem (Figure 4.2-3). Such redirection of growth could have significant fiscal ramifications for existing urban and rural communities.</p>	<p>4.2-2 If the proposed project General Plan amendment were approved, the County should redesignate County lands within the Tracy Planning Area. Those lands, which are designated for development, should be redesignated to agricultural uses until such lands are found necessary to accommodate the projected County growth. Such redesignation would be especially necessary if the three new communities within the Tracy Planning Area were approved. Significant acreages on the west, east, and south sides of the City of Tracy are shown in the County General Plan 2010 as areas for urban uses. Those areas, which are outside the City's existing Sphere of Influence, should be the first areas to be redesignated to agricultural uses.</p>	<p>Prior to adoption of County's General Plan 2010, monitoring should occur.</p>	<p>SJCCDD</p>	<p>Prior to adoption of General Plan 2010</p>

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; **(includes Tentative Map approval or and Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ PUBLIC SERVICES/Parks and Recreation				
4.3.1-1 Regional park facilities in southwestern San Joaquin County would not be adequate to serve residents in the first phase of the project.	4.3.1-1 During Phase I, some regional parkland should be provided on-site and should be located along Old River, or a funding mechanism, such as the creation of a special district or a County Service Area (CSA), should be established to fund operations and an in-lieu fee program should be established by the County Parks and Recreation Department to fund operations and development costs associated with an increased demand on the regional parks in southwestern San Joaquin County. The method of funding for acquisition, development, and on-going maintenance should be incorporated into the text of the Specific Plan. In addition, the proposed golf course should have unrestricted access and be donated to the County if it will be used to offset some of the regional park facility needs.	Review at SP stage.	SJCCDD	SP
4.3.1-2 Inadequate phasing of water recreation facilities would increase the demand for existing County facilities in the area.	4.3.1-2 The applicant should provide, in Phase I, boating facilities to include a boat ramp, boat storage, and docking facilities.	Review at SP stage.	SJCCDD	SP
4.3.1-3 Development of a 70-acre regional park in Phase II would be inadequate to meet regional park needs.	4.3.1-3 A minimum of 205 acres of regional parkland should be provided either on-site by the end of Phase II, or in-lieu development fees should be assessed to supplement the shortage of parkland as defined by County standards. An in-lieu fee program should be established by the County Parks and Recreation Department to fund operations and development costs associated with regional parks. The proposed on-site golf course should have unrestricted access to offset some of the demand for regional parkland if it will be used to off-set some of the regional park facility needs. Provision of adequate regional parkland should be identified in the Specific Plan when a final phasing plan is available.	Review at SP stage.	SJCCDD	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.3.1-4 By the end of Phases III and IV, total acreage set aside for a regional park would be deficient in terms of County standards.	4.3.1-4(a) An additional 326 to 366 acres of regional parkland should be provided on-site by the end of Phase IV, or in-lieu development fees should be assessed to supplement the shortage of parkland as defined by County standards. Provision of adequate regional parkland should be identified in the Specific Plan. The exact amount of required acreage would depend on the designation of the proposed on-site wetland. The acreage should also reflect the phasing plan included in the Specific Plan and should meet County standards. an in-lieu fee program should be established by the County Parks and Recreation Department to fund operations and development costs associated with regional parks.	Review at SP stage.	SJCCDD	SP
	4.3.1-4(b) The Specific Plan must provide an implementation plan for the funding of acquisition, on-going maintenance, and development costs for all recreation and park facilities.	Review at SP stage.	SJCCDD	SP
■ PUBLIC SERVICES/Schools				
4.3.2-1 Bussing of students in Phase I would place a greater demand on existing limited school bus systems.	4.3.2-1 Through the establishment of a Mello-Roos District, the applicant should provide necessary funds for the purchase of school busses for both the elementary and high school districts. This measure or other appropriate measures should be identified in the Specific Plan.	Review at SP stage.	SJCCDD	SP
4.3.2-2 The infusion of students from the project would significantly impact the new high school (currently under construction) until a new high school is constructed at the project site.	4.3.2-2 The recommended schedule for high school funding and construction provided by the high school district (Table 4.3-3) should be agreed upon by the high school district and the applicant prior to approval of the Specific Plan. The schedule should reflect construction of the high school to begin in Phase I rather than Phase II as proposed.	Review at SP stage.	SJCCDD	SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; **(includes Tentative Map approval or and Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ PUBLIC SERVICES/Fire Protection Service				
4.3.3-1 The proposed project would temporarily increase the demand for local fire protection service until on-site services are provided. Plans to provide this service have not been finalized by the applicant.	4.3.3-1(a) Institutional arrangements for providing fire protection service should be finalized in the Specific Plan.	Review at SP stage.	SJCCDD	SP
	4.3.3-1(b) The Specific Plan should include policies relative to fire flow requirements, funding assistance for the construction of fire stations, and ownership of the fire stations.	Review at SP stage.	SJCCDD	SP
■ PUBLIC SERVICES/Police Protection Service				
4.3.4-1 The proposed project would temporarily increase the demand for police services from the County Sheriff's Department.	4.3.4-1 Institutional arrangements for providing police services should be finalized in the Specific Plan.	Review at SP stage.	SJCCDD	SP
4.3.4-2 The number of marine patrols both in San Joaquin and Contra Costa counties would be insufficient at project buildout to provide effective law enforcement along Old River and in the Delta within the project vicinity.	4.3.4-2(a) The applicant's public safety plan should include provisions to patrol the Mountain House marina and the immediate vicinity of the marina.	Review at SP stage.	SJCCDD	SP
	4.3.4-2(b) Fees, based on the number of berths, should be assessed to help offset costs for maintaining the Sheriff's Department Marine Patrol Division in both San Joaquin and Contra Costa counties.	Review at adoption of Development Title.	SJCCDD	Adoption of Development Title and PC.
	4.3.4-2(c) The Specific Plan should incorporate crime prevention policies such as providing security fencing, good lighting, visible berth numbers, and locked gates on boat docks for the marina and related facilities.	Review at SP stage.	SJCCDD	SP and PC

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ PUBLIC SERVICES/Solid and Hazardous Waste				
4.3.5-1 Solid waste projected for project buildout could be 67,850 tons per year without implementing a recycling program. Solid waste generated by the project would contribute to the reduction in landfill capacity.	4.3.5-1 The Specific Plan should incorporate policies to reduce the waste stream generated by the Mountain House project. Such programs should include establishing a curbside recycling program; a commercial recycling program; provision for on-site recycling centers, transfer stations, and composting; and a public information program. Policies should include the County's Waste Plan Format for development projects.	Review at SP stage and during operations.	SJCCDD; SJCDPW	SP, PC , and O
■ PUBLIC SERVICES/Libraries				
4.3.6-1 The proposed project would increase demand for library services.	4.3.6-1 Planning for and constructing an on-site library with a minimum of 10,000 square feet should begin in Phase II. By full project buildout, an additional 12,000 square-foot library should be constructed at the project site.	Review at SP stage.	SJCCDD	SP
■ PUBLIC UTILITIES/Water				
4.4.1-1 If lands within the project site that are currently outside the Byron-Bethany Irrigation District (BBID) were not annexed, development could not occur until alternative water sources were secured. If groundwater resources were available and developed in those portions, overdrafting of groundwater may occur.	4.4.1-1(a) Annexation of the unincorporated portions of the project site and of the portions of the project site that are within the Westside Irrigation District and Plain View Water District should be initiated. The annexation negotiations should be initiated completed prior to the approval of the Specific Plan through the Contra Costa County or San Joaquin County Local Agency Formation Commission. These negotiations should ascertain whether annexation of the unserved portions of the project site and the portion of the project site within the Westside Irrigation District to BBID is possible.	Submittal of annexation approval document to SJCCDD prior to approval of SP.	Contra Costa County; LAFCO; and SJCCDD	SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (**includes** Tentative Map approval ~~or~~ and Final Map approvals **and other discretionary application approvals**); C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.4.1-1(b) If annexation to BBID were not approved, the applicant should secure an adequate water supply for the areas outside BBID prior to approval of the Specific Plan. If groundwater resources were to be used, a thorough hydrogeological assessment of local aquifers must be performed. Alternatives could include: scaling down the project to fit wholly within the boundaries of BBID; utilization of available riparian water rights that are in place for the land north of Byron Road ; developing a conjunctive use plan which entails the storage of surface water in a groundwater basin; obtaining a separate water supply from the State Water Project or Federal Central Valley Project; and demonstrating adequate groundwater resources to serve the project.	Approval of hydrological assessment by SJCDPW. Proof of water supply to be provided to SJCDPW.	SJCDPW and SJCCDD	SP
4.4.1-2 If the State Water Resources Control Board (SWRCB) denies BBID's application for winter water rights, the absence of a year-round surface water supply to the project could result in the lack of a surface water supply to the project during the winter months. If groundwater resources were available and developed in the project to augment the surface water supply, overdrafting of local groundwater may occur if no alternate winter water supply is procured.	4.4.1-2 The project proponent should demonstrate a reliable water supply throughout the calendar year prior to approval of the Specific Plan.	Submittal of copy of written agreement with BBID to SJCDPW prior to Specific Plan. If BBID agreement not possible, other verification to be provided by SJCDPW.	SJCDPW; SJCCDD	SP
4.4.1-3 Changing part of BBID's service area from agricultural water use to municipal/industrial water use would create institutional issues requiring resolution. Without resolution, a reliable water supply could not be guaranteed. Indirectly, impacts to agricultural operations could occur due to the potential for rising water costs.	4.4.1-3 The applicant should execute an enforceable agreement with BBID prior to approval of the Specific Plan to supply water to the project site, which would protect BBID and its customers from economic loss and water interruption.	Refer to 4.4.1-2 above.	SJCDPW; SJCCDD	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.4.1-4 The projected available supply of water to the project site (8,125 AF per year) is less than the project demand (10,391 AF per year) and could result in an inadequate water supply for the project. If groundwater resources were available and developed, over-drafting of local groundwater resources could occur.	4.4.1-4(a) Wastewater reclamation and water conservation techniques should be implemented to reduce the potable water demand to the supply level of 8,125 AF/year or lower. Such techniques should be fully described in the Specific Plan for the project.	Review at SP stage and during operations.	SJCDPW and SJCCDD	SP and O
	4.4.1-4(b) For the Specific Plan, the applicant should address the potential for installation of a dual distribution system. If a dual distribution system were not included, a detailed justification should be supplied.	Review at SP stage.	SJCDPW; SJCDB; and SJCCDD	SP and O
	4.4.1-4(c) Water conservation measures should be incorporated into the design of the project to the maximum extent possible. These measures should be incorporated into the Specific Plan.	Review at SP stage.	SJCDPW; SJCCDD; and SJCBD	SP
	4.4.1-4(d) Overall water demand could be reduced by a reduction in project density. This mitigation measure would only be needed if other strategies did not reduce total water demand to 8,125 AF/year or lower. A subsequent GPA could be required to reflect required lower densities.	Review at GPA or SP stage to determine if subsequent GPA will be required.	SJCCDD	SP or GPA
4.4.1-5 A potable water supply for the project may not be available to supply the early years of the project if the permit needed to operate a public drinking water system were not obtained in a timely manner or the design of the water treatment plant does not provide all the treatment necessary to meet drinking water standards.	4.4.1-5 The applicant should initiate the permitting process with the California Department of Health Services, Office of Drinking Water and begin any source water sampling necessary to fulfill the regulations and to aid in the design of the water treatment plant prior to approval of the Specific Plan.	Copy of DTSC permit should be provided to SJCDPW and SJCCDD. Monitoring results reported to DTSC.	SJCDPW; SJCCDD; and DTSC	PC and O

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; **(includes Tentative Map approval or and Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.4.1-6 An inadequate water treatment sludge disposal system could adversely impact local water quality.	4.4.1-6 A sludge management plan, for both water treatment and wastewater treatment sludge, should be developed as part of the project's Specific Plan. The plan should include a detailed analysis of all disposal options and beneficial reuse of the sludge to the maximum extent possible.	Submittal of sludge management plan to SJCDPW as part of solid waste permit application.	SJCDPW and SJCEHD	SP and O
4.4.1-7 An uncontrolled release of hazardous materials associated with water treatment practices could potentially occur and impact water resources and public health.	4.4.1-7(a) The applicant should develop a preliminary Hazardous Materials Business Plan to address material stored, used, and generated by the proposed on-site water treatment plant. This Plan should be included as part of the project's Specific Plan.	Submittal of preliminary plan as part of SP. Detailed plans will be required at PC stage.	SJCEHD and SJCCDD and San Joaquin County Office of Emergency Services	SP and PC
	4.4.1-7(b) Prior to design of the water treatment plant, chemicals should be carefully selected for use during operations to minimize the potential for accidental releases. Chemicals to be used at the water treatment plant should be specified in the Specific Plan. The design of the chemical handling and storage facilities in the water treatment plant should be designed to provide secondary containment and safety features to minimize and effectively mitigate accidental releases.	Review at SP stage. Verification of compliance to occur annually.	SJCEHD; SJCCDD; and SJCBD	SP; O; PC

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ PUBLIC UTILITIES/Wastewater				
4.4.2-1 Inadequately treated reclaimed wastewater may result in the discharge of untreated or partially treated wastewater to fields adjacent to the site that could impact local surface and groundwaters and public health.	4.4.2-1(a) The applicant should initiate the permitting process with the California Department of Health Services, Office of Drinking Water and the Central Valley Regional Water Quality Control Board for the proposed wastewater reclamation system prior to the Specific Plan. This would provide for early identification of constraints. The Wastewater Discharge Permit must be issued before construction begins.	Submittal of approved DTSC and RWQCB permit or permit request to SJCDPW at SP review stage. Final permits to be submitted to SJCDPW prior to construction.	RWQCB; DTSC; and SJCDPW	SP and PC
	4.4.2-1(b) The applicant should develop a reclaimed wastewater irrigation plan that includes specifications for individual irrigation system designs, irrigation practices, and monitoring of actual watering practice to determine compliance with permit restrictions. The plan should also identify how adequate acreage necessary for irrigation with reclaimed water would be guaranteed.	Review at SP stage. Verification of compliance on annual basis during operations.	SJCDPW and SJCEHD	SP and O
	4.4.2-1(c) For the Specific Plan, the applicant should provide a preliminary design and plant layout of the reclaimed wastewater treatment plant including water storage facilities.	Review at SP stage.	SJCDPW and SJCCDD	SP
4.4.2-2 Discharging treated wastewater or other waste to Old River could adversely impact local water resources and public health.	4.4.2-2(a) More on-site reclamation opportunities should be investigated to reduce the surface water discharge and to reduce the project's water demand. Such opportunities should be identified in the Specific Plan for the project.	Review at SP stage.	SJCCDD and SJCDPW	SP
	4.4.2-2(b) An off-site reclamation system should be developed that is sized to meet as much wastewater as possible up to the entire annual flow. Such a system should be identified in the Specific Plan for the project.	Review at SP stage.	SJCDPW; SJCCDD; and SJCBD	PC

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval or Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.4.2-2(c) If sufficient land were not available to reclaim all of the treated wastewater, an application for the proposed wastewater discharge to Old River should be submitted for consideration by the Central Valley Regional Water Quality Control Board prior to Specific Plan approval and a permit should be obtained prior to project construction.	Submittal of approved application by RWQCB at SP stage.	SJCDPW and SJCDPW	SP and PC
	4.4.2-2(d) The wastewater treatment plant should be designed with a high degree of redundancy for every unit process to minimize the potential for incomplete treatment.	Review of preliminary plant design at SP stage.	SJCDPW; SJCBD; and SJCCDD	SP and PC
	4.4.2-2(e) An aggressive public education campaign should be considered in developing the Specific Plan to inform the public of what wastes could be disposed of in the sanitary sewer and what alternative disposal options are available for other wastes. The program should include information regarding alternative household chemicals that are the least environmentally harmful.	Submittal of educational materials for review and approval.	SJCDPW	O (annually)
	4.4.2-2(f) A pretreatment program should be considered in developing the Specific Plan. The program would be designed to educate and regulate businesses regarding what may be discharged to the sanitary sewer.	Review at SP stage.	SJCCDD and SJCDPW	SP
	4.4.2-2(g) A hazardous waste collection program should be implemented by the Community Services District to provide readily available disposal options for residents within the project.	Submittal of preliminary program at SP stage. Verification during operations.	SJCCDD and SJCDPW	SP and O
	4.4.2-2(h) During construction for any project phase, all agricultural drains under the impacted project areas are to should be removed or abandoned in place to eliminate the potential for the drains to act as contamination conduits. All drains should be eliminated at project build-out. All plans for relocation or removal of agricultural drains should be approved by the RWQCB.	Verify prior to construction.	SJCBD and SJCCDD	PC

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.4.2-3 An inadequate wastewater sludge treatment and disposal system could adversely impact water resources and public health due to release of untreated wastewater solids to local surface waters.	4.4.2-3(a) The applicant should investigate potential beneficial uses for the wastewater treatment sludge and thoroughly evaluate the feasibility of implementing one or more of these options in the Specific Plan.	Review at SP stage.	SJCDPW and SJCCDD	SP
	4.4.2-3(b) If disposal of wastewater treatment sludge at the Vasco Road landfill were one of the options identified during the evaluation, an executed contract with the landfill should be provided in the Specific Plan this alternative should be included and discussed in the Specific Plan. The feasibility and necessary permit requirements should be discussed in detail.	Copy of executed contract prior to SP approval. Review at SP stage.	SJCCDD	SP and PC
	4.4.2-3(c) Sludge drying beds should be designed and constructed to meet the requirements in Title 26, Division 23, Chapter 3, Subchapter 15 of the California Code of Regulations.	Review of design and construction.	SJCEHD and SJCBD	PC and C
	4.4.2-3(d) A pretreatment program designed to regulate non-domestic wastewater discharges into the sanitary sewer should be considered in developing the Specific Plan.	Review at SP stage.	SJCCDD	SP
4.4.2-4 An uncontrolled release of hazardous materials would be possible with wastewater treatment practices and could impact water resources and public health.	4.4.2-4(a) A preliminary Hazardous Materials Business Plan should be developed to address material stored, used, and generated by the proposed wastewater treatment plant. This Plan should be included as part of the project's Specific Plan.	Review at SP stage.	SJCCDD and SJCDPW	SP
	4.4.2-4(b) Prior to design of the wastewater treatment plant, chemicals for wastewater treatment operations should be carefully selected to minimize the potential for risk of upset. The selected chemicals should be identified in the Specific Plan. The chemical handling and storage facilities in the wastewater treatment plant should be designed to provide secondary containment and safety features to minimize and effectively mitigate accidental releases.	Review at SP stage.	SJCDPW and SJCCDD	SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; **(includes Tentative Map approval or and Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ PUBLIC UTILITIES/Storm Drainage				
4.4.3-1 The storm water discharges into Mountain House Creek and Old River could contain pollutants that may adversely impact the beneficial uses of Old River.	4.4.3-1(a) The project applicant must submit an NPDES permit application for storm water discharge associated with an industrial activity to the RWQCB, Central Valley Region, at least 30 days prior to the commencement of construction and comply with all requirements specified in the NPDES permit. This submittal should be addressed in the Specific Plan.	Supply copy of NPDES permit.	SJCCDD; SJCDPW; and SJCBD	PC
	4.4.3-1(b) The storm water collection system should be designed and constructed to prevent erosion and minimize pollutant loading. This system should be described in the Specific Plan.	Review at SP stage.	SJCDPW; SJCCDD; and SJCBD	SP
	4.4.3-1(c) The Community Services District for the proposed project should prepare and implement a Best Management Plan to: 1) prevent non-storm water from entering the storm water collection system; 2) minimize the discharge of pollutants into the storm water collection system, and, 3) prepare for prompt and effective response to accidental spills into the storm drain system. This plan should be developed as part of the project's Specific Plan.	Review at SP stage.	SJCDPW	SP and PC
	4.4.3-1(d) An emergency response plan should be prepared for the project to provide immediate and effective containment and cleanup response to accidental spills and illegal dumping of materials into the storm drain system. The emergency response plan should be approved by the San Joaquin County Office of Emergency Services prior to project construction.	Review of plan.	OES and SJCEHD	PC
4.4.3-2 The modifications proposed for Mountain House Creek could damage the existing riparian habitat or prevent the establishment of a healthy riparian habitat.	4.4.3-2(a) The applicant must apply for and comply with a Streambed Alteration Agreement from the California Department of Fish and Game (CDFG).	Copy of approved Streambed Alteration Agreement. Supervision of compliance by CDFG and SJCBD.	CDFG; SJCBD; and SJCCDD	PC
	4.4.3-2(b) Streambed modification and riparian vegetation proposals should be prepared at the Specific Plan stage and should be subject to approval by the County and CDFG.	Review at SP stage.	SJCCDD and CDFG	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.4.3-3 The volume and rate of runoff from the Mountain House New Town could cause excessive erosion and siltation of detention ponds, creeks, drainage channels, and Old River.	4.4.3-3(a) The operating budget of the Community Services District should be guaranteed to be sufficient for all maintenance functions necessary to operate the storm water collection system as intended. The budget should be addressed in the Specific Plan.	Budget statements to be submitted to SJCDPW. Review at SP stage.	SJCDPW	SP; O
	4.4.3-3(b) The performance standards and design features of the inlets to detention ponds should be included in the Specific Plan. The design should allow for reduction in the velocity of the incoming water.	Review of pond design and construction by SJCBD.	SJCBD; SJCCDD and SJCDPW	SP
	4.4.3-3(c) If two-stage detention ponds were used, the inflow channel for the upper stage (usually dry) should be constructed to prevent erosion, which may include a concrete low-flow channel or riprap, and should terminate at the edge of the lower stage (always wet). The design features and performance standards to prevent erosion should be provided in the Specific Plan.	Review at SP stage.	SJCBD and SJCCDD	SP and PC
	4.4.3-3(d) Periodic removal of sediments from detention ponds should occur to restore the capacities and to minimize resuspension of sediments. Pond maintenance objectives, activities, and approximate frequencies should be described in the Specific Plan; a detailed description of maintenance activities should be incorporated into an Operations and Maintenance Manual for the storm water collection system.	Review at SP stage.	SJCDPW and SJCCDD	SP and O
	4.4.3-3(e) If grading or construction activities were to occur during the winter months, local drainage and temporary detention ponds should be provided to trap sediment in the runoff prior to discharge to creeks, ditches, or Old River. These provisions should be addressed in the Specific Plan.	Review at SP stage.	SJCBD and SJCCDD	SP and O

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; **(includes Tentative Map approval and Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.4.3-4 The accumulation of floating debris and petroleum residual in detention ponds could create a nuisance condition (e.g., odors, mosquito infestation, and excessive algae growth) and cause adverse aesthetic effects.	4.4.3-4(a) Surface barriers near the inlets to detention ponds should be considered to contain floating debris and residual hydrocarbon within a small area of the basins to allow for easier cleanup. The performance standards and design features to achieve containment should be included in the Specific Plan.	Review at SP stage.	SJCDPW and SJCCDD	SP and O
	4.4.3-4(b) Landscaping in and around detention ponds should be maintained free from litter and in healthy condition. To the extent feasible, native drought tolerant plants should be used. Landscaping plans and maintenance activities should be described in the Specific Plan.	Review at SP stage.	SJCCDD; SJCDPW; and SJCBD	SP and O
	4.4.3-4(c) Equipment for removing floating debris and cleaning up petroleum products from the basins should always be available within the project site. Description of the equipment and other necessary materials should be provided in the Specific Plan.	Review at SP stage.	SJCCDD and SJCDPW	SP and O
	4.4.3-4(d) Frequent inspection of detention ponds (e.g., daily during rain storms, weekly during dry periods) should be conducted and the findings recorded. Inspection objectives, types of activities, approximate frequencies of inspections , and recordkeeping plans should be included in the Specific Plan; a detailed description of inspection activities should be incorporated into an Operations and Maintenance Manual for the storm water collection system.	Review at SP stage.	SJCCDD and SJCDPW	SP and O
	4.4.3-4(e) Adequate access should be ensured for maintenance of all detention basins. Pond layouts should be provided in the Specific Plan.	Review at SP stage.	SJCCDD and SJCDPW	SP and PC
4.4.3-5 Construction of the proposed project in phases could interfere with the operations of BBID's water distribution canals, agricultural tile drains, and surface drainage channels.	4.4.3-5 The development should be designed and constructed such that BBID operations are not interrupted. The Specific Plan should address how this is to be accomplished.	Review at SP stage.	SJCCDD and SJCBD	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.4.4-1 The proposed land use plan appears to violate PG&E restrictions for uses within electrical transmission line and natural gas pipeline easements and does not provide adequate corridors for planned utility easements.	4.4.4-1(a) The applicant should formally apply to PG&E to relocate and underground the Weber-Herdlyn 60 kV electrical transmission line. A preliminary response and cost estimate from PG&E should be secured and documented in the Specific Plan.	Review at SP stage.	SJCCDD	SP and PC
	4.4.4-1(b) The applicant should formally apply to PG&E to relocate the eight-inch natural gas pipeline. A preliminary response and cost estimate from PG&E should be secured and documented in the Specific Plan.	Review at SP stage.	SJCCDD	SP and PC
	4.4.4-1(c) An adequate open space corridor or appropriate land use plan which meets PG&E approval should be provided for the Rio Oso-Tesla and proposed Rancho Seco-Tesla transmission line corridors (see Section 4.12. Public Health and Safety section of this DEIR). PG&E's approval should be secured and documented in the Specific Plan.	Review at SP stage.	SJCCDD	SP
	4.4.4-1(d) Development within electrical overhead transmission easements must not restrict access to the towers or interfere with the tower footings or wires, and must receive prior approval from PG&E. Development in easements associated with buried pipelines should not disturb soil cover over the pipelines, and must receive prior approval from PG&E or other owners of easements.	Submittal of approval of plans by PG&E.	SJCCDD	PC
	4.4.4-1(e) The applicant should submit construction plans to PG&E for review. In particular, the proposed land uses in PG&E easements and movement of heavy machinery over the Line No. 2 gas pipeline should be addressed. PG&E's approval should be secured and documented in the Specific Plan.	Review at SP stage.	SJCCDD	SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval and Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.4.4-2 The project would have a significant energy demand and would contribute to the depletion of non-renewable resources and the demand for environmentally-detrimental renewable resources such as hydroelectric power.	4.4.4-2(a) Streets in residential areas should be aligned to maximize the number of houses with southern exposures to facilitate the use of solar energy. Lots along these streets should be of an adequate width to promote south-facing orientation of units and maximum south-facing roof areas for solar collectors. Street, lot, and residential unit design to promote the use of solar energy should be addressed in the Specific Plan.	Review at SP stage.	SJCCDD	SP
	4.4.4-2(b) The Specific Plan should state how conformance with the Solar Rights Act of 1987 and Solar Shade Control Act of 1987 would be achieved. Details on how the acts would be implemented should be addressed during the Tentative Map phase.	Review at SP stage.	SJCCDD	SP and PC
	4.4.4-2(c) The Specific Plan should assess the feasibility of incorporating solar water heating systems for residential, commercial, and industrial buildings.	Review at SP stage.	SJCCDD	SP
	4.4.4-2(d) Residences with common walls should be incorporated into the project to the extent practicable to minimize heat loss from units. Inclusion of such units should be addressed in the Specific Plan.	Review at SP stage.	SJCCDD	SP and PC
	4.4.4-2(e) Shade trees should be provided on the west side of buildings to reduce cooling demands during the summer and to provide windbreaks during cooler months. Landscaping standards should be established in the Specific Plan.	Review at SP stage.	SJCCDD	SP and PC
	4.4.4-2(f) Shade trees should be provided in parking lots that would not block winter sunlight from reaching nearby buildings. At least 70 percent of the parking stalls should be shaded between 10 a.m. and 2 p.m. Such shading would reduce the use of air conditioning in automobiles and heat buildup associated with asphalt. Landscaping standards should be established in the Specific Plan.	Review at SP stage.	SJCCDD	SP and PC
	4.4.4-2(g) Landscaping along roads should be incorporated into the project design to minimize heat buildup associated with asphalt. Landscaping standards should be established in the Specific Plan.	Review at SP stage.	SJCCDD	SP and PC

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.4.4-2(h) The new town should maximize the use of alter-native energy and ensure that the most energy efficient equipment and designs are used. The Specific Plan should assess the feasibility of using alternative sources of energy, including wind power for the new town. The Specific Plan should also state how energy efficiency will be ensured for the proposed project.	Review at SP stage	SJCCDD	SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval or and Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ CULTURAL RESOURCES				
4.5-1 Development of the project could disturb subsurface prehistoric cultural deposits or artifacts related to the prehistoric setting or historic archaeological deposits or features dating from the establishment of Euro-American settlement in San Joaquin County.	4.5-1(a) When specific land use and development plans are formulated as part of the Specific Plan, additional archaeological surveys should be conducted in areas of specific development impact that have not been subjected to intensive archaeological reconnaissance.	Survey prior to construction.	SJCCDD	PC
	4.5-1(b) Because of the possibility that a buried site, Ca-SJo-136, may be located in the vicinity of Mountain House Creek, construction activity in the Mountain House Creek area should be monitored by an archaeologist.	Monitoring during construction.	SJCCDD	C (daily)
	4.5-1(c) Because of the potential historic significance of Ca-SJo-229H, the site of the village of Wicklund, and because of the potential for buried features or artifact deposits, an archaeologist should monitor any construction work in the area of this site.	Monitoring during construction.	SJCCDD	C (as needed)
	4.5-1(d) If, during the course of construction, subsurface historic archaeological features were identified on sites Ca-SJo-230H and Ca-SJo-231H or anywhere within the project site, excavation should cease and an archaeologist should be contacted to evaluate these materials.	Monitoring during construction.	SJCCDD	C (as needed)
	4.5-1(e) If, during the course of any construction activity, buried prehistoric cultural resources are found, excavation should cease and an archaeologist should be contacted immediately to evaluate these resources. Such evaluation may entail archaeological test excavation and/or mitigative data recovery.	Evaluation as needed.	SJCCDD	C (as needed)

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.5-2 Development of the proposed project could disturb previously unknown human prehistoric burial sites.	4.5-2 The County Coroner, the Native American Heritage Commission, and an archaeologist should be informed and consulted if a human prehistoric burial site were discovered. An agreement should be formulated between the Native American representative, the archaeologist, San Joaquin County, and the developer with regard to the proper treatment and disposition of human remains and associated artifacts in the Specific Plan. Such treatment and disposition may require archaeological excavation and reburial.	If needed, consultation and finalization of written agreement. Compliance with agreement to be monitored.	SJCCDD	C (as needed)
4.5-3 The proposed project could destroy historic structures over 50 years of age.	4.5-3 When specific land use information and detailed infrastructure planning is presented as part of the Specific Plan, a determination should be made as to whether any of the structures or structural complexes described in this DEIR would be impacted. All such structures should be evaluated by an architectural historian. After evaluations are made and if any adverse impacts are identified, mitigation measures should be suggested and followed. Such mitigation might consist of avoidance of impacts, detailed architectural documentation and history, or removal of a building to another location.	Review at SP stage. Survey prior to construction.	SJCCDD	SP and PC
4.5-4 The proposed project could impact the route of the projected DeAnza Trail, a National Historic Trail.	4.5-4 The applicant should stay in contact with the National Park Service with regard to the development of its comprehensive plan for the DeAnza Trail. If the commemorative trail will pass through the project site, the Mountain House Specific Plan should incorporate the DeAnza trail using historic markers along the route and, preferably, develop a multi-use recreational and historic interpretive trail which would incorporate the projected route of the DeAnza Trail.	Review at SP stage	SJCCDD	SP and PC

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; **(includes Tentative Map approval or and Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

7.1 MITIGATION MONITORING PROGRAM
Geology, Soils, and Seismicity

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ GEOLOGY, SOILS, AND SEISMICITY				
4.6-1 Soils exposed during grading and project construction could be subject to excessive erosion.	4.6-1(a) The applicant should develop erosion and sediment control standards for the proposed project and submit the standards to the San Joaquin County Department of Public Works for review and approval prior to approval of the Specific Plan. Prior to any on-site construction, an erosion and sediment control plan for each individual construction project should be developed by the project engineer and submitted to the San Joaquin County Department of Public Works for review and approval. The plan should comply with requirements of the San Joaquin County Grading Ordinance and the National Pollutant Discharge Elimination System non-point-source reduction programs, as a minimum.	Approval of plan.	SJCDPW	SP, PC and C (weekly)
	4.6-1(b) Excavation of creek channels would require permits by the California Department of Fish and Game. These permits would ensure protection of water quality by requiring minimization of sedimentation.	Submittal of permits.	CDFG and SJCDPW	PC
4.6-2 Surface soils with high shrink/swell potential could cause damage to building foundations and paved surfaces.	4.6-2 Prior to development approval of the Specific Plan, a detailed preliminary geotechnical investigation of on-site soils should be conducted. This investigation should identify soils with high shrink/swell potential and recommend appropriate foundations and pavement subgrade treatment. Detailed geotechnical investigations would be required at the Tentative Map stage.	Submittal of preliminary investigation.	SJCCDD	SP and PC
4.6-3 Settlement may occur if loads (fill and/or structures) are placed over the low-density clays along Old River.	4.6-3 Areas underlain by low-density clays should be left as open space, or alternatively, building foundations should be designed to minimize potential settlement.	Review at SP stage.	SJCCDD	SP
4.6-4 Levee failure along Old River and the Delta-Mendota Canal could be caused by moderate to strong groundshaking during an earthquake.	4.6-4 Levees should be upgraded to meet engineering standards to ensure structural integrity under the anticipated maximum ground acceleration of 0.5g. A feasibility study to determine the cost of levee reconstruction and to examine alternatives, such as setting aside open space in the levee failure flood zone, should be completed prior to development of the Specific Plan.	Review at SP stage.	SJCCDD and USACE	SP and PC

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.6-5 Liquefaction could cause foundation failure in areas underlain by saturated sandy sediments.	4.6-5 A detailed geotechnical investigation should be conducted prior to development of the Specific Plan to determine areas that may be susceptible to liquefaction. The report should recommend design criteria for construction in these areas. Development in areas identified as susceptible to liquefaction should be limited to open space or very-low-density development. All structures, roads, and utility lines proposed in these areas should follow design criteria that reduce potential liquefaction impacts. Unless these areas are reserved for open space, the impacts associated with liquefaction would remain potentially significant.	Review at SP stage. Verify compliance with recommendations.	SJCBD	SP and C
4.6-6 Strong groundshaking during an earthquake could cause structural damage to improvements and injuries to residents of the proposed project.	4.6-6(a) The potential hazards associated with building collapse and infrastructure disruption due to seismic activity cannot be fully mitigated.	None necessary.	---	---
	4.6-6(b) Project residents and workers should be made aware of the seismic hazards associated with the area and informed of ways to reduce these hazards. The project applicant should develop and implement a community earthquake preparedness plan, to assist in the goal of community education.	Submittal of plan and educational materials.	SJCCDD and CSD	O (annually)

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval or and Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ HYDROLOGY AND WATER QUALITY				
4.7-1 Proposed structures and facilities on the project site could be inundated by potential flooding within the 100-year floodplain.	4.7-1(a) The levees protecting the project site should all be thoroughly inspected, evaluated, and improved, as necessary, prior to any development within the portion of the site currently designated as a 100-year flood zone. The evaluation of the levee should be performed by a certified engineering geologist or registered geotechnical engineer prior to completion approval of the Specific Plan. All recommendations presented for levee design and improvements by the professionals should be implemented following review and approval by the San Joaquin County Flood Control Engineer. The review would be conducted under the FEMA requirements for the "Letter of Map Revision" process. Areas currently within the 100-year flood zone cannot be rezoned until this area has been taken out of the flood zone. Prior to the Specific Plan, the applicant should apply for and receive a "Conditional Letter of Map Revision" for proposed levee improvements. All levee work must be completed and approved and a "Letter of Map Revision" must be issued prior to any construction within the currently identified flood zone.	Inspection and evaluation of improvements.	SJCFCE	Prior to SP and PC
	4.7-1(b) Regular inspection and maintenance of the levee should be performed to identify and correct any conditions that would destabilize the structure. The levee should be inspected semi-annually by the Community Services District (CSD) for the Mountain House New Town. The semi-annual inspections of the levee should specifically document evidence of erosion on the river side of the levee, excessive seepage on the landward slope (particularly at the toe of the slope), rodent burrows, and levee crest subsidence. Identified problems should be corrected immediately by the CSD.	Inspection and maintenance.	CSD and SJCCDD	O (semi-annually)

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.7-2 Increased runoff within the watershed and channel modification of Mountain House Creek could result in increased erosion.	4.7-2 Although the applicant has presented preliminary design measures to reduce the erosion hazards, a specific channel design and maintenance plan should be prepared and presented in the Specific Plan. The specific channel design should incorporate riparian vegetation to the greatest extent possible. The design measures should also provide for protection of and any necessary improvements to existing culverts and stream crossings within the drainage system. The use of pervious pavements should be incorporated into the design of parking and pedestrian areas to increase infiltration of storm water runoff. The design and maintenance plan should present specific channel maintenance procedures and schedules to be implemented by the Community Services District to protect the channel and associated structures during and after the development of the project. The channel design and maintenance plan should be reviewed and be subject to the approval of the San Joaquin Flood Control Engineer.	Monitor completion and implementation of channel design.	SJCFCE	SP and PC
4.7-3 Increased sedimentation in the proposed wetland area at the terminus of Mountain House Creek and within Old River would be caused by runoff from Mountain House Creek and operation of the proposed marina.	4.7-3(a) Sediment discharge to Mountain House Creek should be controlled. Appropriate control of erosion within the project area, which would contribute to the sediment load, was discussed in Mitigation Measure 4.7-2. The discharge of sediment to Old River should also be minimized by causing sediment deposition to occur in areas within the Mountain House Creek channel. The Mountain House Creek channel should be enlarged upstream of the wetlands area to reduce flow velocities and cause sediment deposition. An appropriate channel design should be required as part of the Specific Plan and subject to review and approval by the San Joaquin Flood Control Engineer.	Review at SP stage.	SJCCDD and SJCFCE	SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; **(includes Tentative Map approval or and Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.7-3(b) As part of the Specific Plan, a dredging plan should be developed for removal of accumulated sediment from the Old River channel in the area of the proposed marina outlet. This plan should be subject to the requirements of dredging permits issued by the U.S. Army Corps of Engineers and should have provisions for controlling turbidity during dredging. The use of silt curtains in the dredging area to capture sediments should be addressed in the dredging plan.	Review at SP stage.	SJCCDD and USACE	SP and PC
	4.7-3(c) Prior to obtaining a dredging permit, a disposal area for the dredged sediments should be established by the applicant and approved by the Central Valley Regional Water Quality Control Board. The disposal area should be identified in the recommended dredging plan. The characteristics and design of the dredge disposal area should minimize the potential discharge of sediments to surface water and potential discharge of contaminants to the surface water or groundwater. A sampling plan to evaluate the potential levels of contaminants within the sediments should be incorporated in the recommended dredging plan. The collected samples should as a minimum, be analyzed for trace metals, salts, pesticides, and herbicides.	Approval of dredging plan.	RWQCB	SP and PC
4.7-4 Inadequate water circulation would potentially create water quality problems within the proposed on-site marina.	4.7-4(a) Circulation within the proposed marina should be adequate to reduce the potential for algal growth. A forced circulation system could pump water from Old River to the marina to mitigate thermal stratification and stagnation within the marina. A system capable of pumping 25 cfs would reduce water residence time in the marina to less than five days and reduce the potential for algal blooms (Appendix 10.12). A pipeline right-of-way from Old River to the southern portion of the marina would be needed to operate the recommended forced circulation system.	Approval of circulation system design.	RWQCB	PC and O
	4.7-4(b) Operation of the forced circulation system should be made contingent on water temperature monitoring within the marina.	Monitoring of water temperature.	RWQCB	O (quarterly)

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.7-5 Water quality in Old River could be impacted by increased turbidity caused during construction of the proposed marina.	4.7-5 The impact of construction activities at the marina could be mitigated by completing as much excavation and levee construction as possible prior to breaching the Old River levee. During levee breaching, a silt curtain should be installed within Old River to trap sediment carried into the river from the marina area.	Monitoring during construction.	RWQCB; SJCFCE; and USACE	C
4.7-6 Ultimate development of the project site could cause a rise in shallow groundwater levels as a result of removal of subsurface drains.	4.7-6 The design of building foundations and pavements should consider the potential for adverse soil conditions caused by high groundwater levels. The designs should provide adequate drainage and require appropriate bearing capacities for proposed structures. The building, foundation, and pavement designs would be subject to review and approval by the San Joaquin County Building Department.	Review and approval of designs.	SJCBD	PC and C
4.7-7 Discharge of treated or untreated wastewater from the proposed project to Old River could result in degradation of water quality within the River and South Delta waterways system.	4.7-7(a) Additional on-site reclamation opportunities should be implemented to reduce the potential need for wastewater discharge to Old River.	Review at SP stage.	SJCCDD and SJCDPW	SP
	4.7-7(b) An off-site reclamation system should be developed that is sized to meet as much wastewater as possible up to the entire annual flow. Such a system should be identified in the Specific Plan for the project.	Review at SP stage.	SJCCDD and SJCDPW	SP
	4.7-7(c) If wastewater discharge were required, an application for the proposed discharge should be submitted for consideration by the Central Valley Regional Water Quality Control Board prior to project construction. The RWQCB should consider the potential near-field and far-field impacts on water quality and potential future changes in the South Delta waterways circulation system.	Review at PC stage.	SJCCDD and SJCDPW	PC

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval or and Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

7.1 MITIGATION MONITORING PROGRAM
Visual Quality

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.7-8 Increased boating within Old River and the South Delta waterways, expected as the result of the operation of the proposed marina would contribute to the erosion of levees by waves generated as boat wakes.	4.7-8(a) The design of the levee improvements recommended in Mitigation Measure 4.7-1 should consider and mitigate the potential for all potential causes of erosion, including boat wakes. Possible design components for the prevention of erosion would include rock revetment structures, such as rip-rap. Specific design components for the erosion abatement should be required by the San Joaquin County Flood Control Engineer as a condition of levee design approval.	Inspection and evaluation of improvements.	SJCFCE	PC
	4.7-8(b) To mitigate the impact of boat wakes on the stability of levees outside the control of the project, boat speed limits to reduce the generation of potentially damaging boat wakes should be established and enforced by the San Joaquin County Sheriff's Department, Boating Safety Division, in conjunction with other Delta area law enforcement agencies.	Review during first five years of project after marina is completed.	SJCCDD and County Sheriff.	Once per year for five years.
■ VISUAL QUALITY				
4.8-1 The proposed project would replace a 4,667-acre agricultural portion of San Joaquin County with a built environment, and would significantly alter the existing rural visual quality of the site as seen from local roads.	4.8-1(a) A major visual setback should be provided to maintain an agricultural gateway to San Joaquin County for motorists driving along I-205. Development south of Grant Line Road could be limited to a band extending approximately 3,000 feet south of the road (Figure 4.8-10). Development within this band should also be screened by a continuous row of evergreen trees at the southern end of the development. A permanent open space easement could be acquired to protect this southern portion of the project site that would be visible from I-205 (Figure 4.8-10). This development setback would also have the added benefit of reducing noise impacts from I-205. The applicant could purchase a conservation easement (i.e., voluntary restriction of land use to agricultural purposes) using the San Joaquin Open Space and Farmland Trust. The land could remain in private ownership and agricultural production, with deed restrictions to prevent future development.	Review of final GPA request and during development of Specific Plan.	SJCCDD	GPA and SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.8-1(b) The Specific Plan should identify all techniques proposed to minimize the visibility of urban development south of Grant Line Road. Such techniques could include building setbacks, landscape screening, use of berms, fencing, and low building heights.	Review at SP stage.	SJCCDD	SP
	4.8-1(c) To maintain the rural character of the surroundings, additional landscaping with evergreen trees should occur along the existing major roads, which include Patterson Pass Road, Byron Road, and Grant Line Road (Figure 4.8-10). These trees should be planted so that the canopies of the trees touch one another at maturity and form a solid edge along the roads.	Review of SP landscaping standards. Verification of compliance with SP landscaping standards.	SJCCDD; SJCBD	SP and C
	4.8-1(d) Additional screening by trees should be provided along Old River and a small waterway adjoining Old River at the site's northeast corner (Figure 4.8-10). Along Old River, the landscaped area should be planted with species of trees and shrubs compatible with existing riparian vegetation. Species should also be chosen to provide effective screening so that the public using the levees for walking or bicycling would have a limited view of development on site. Similarly, at the small waterway, riparian landscaping should be provided.	Review of design during SP and verification of compliance during construction.	SJCCDD	SP and C
	4.8-1(e) Landscaping plans should be clearly identified in the Specific Plan for both existing and proposed roadways. Such plans should be used by a design review committee established for this project and responsible for design review prior to construction.	Review at SP stage.	SJCCDD	SP and PC
	4.8-1(f) The Specific Plan should include a comprehensive sign program for the proposed C-FS district which would limit pole signs to a single identifying sign for the FS area; height and size restrictions should be imposed where feasible to lessen the visual impact.	Review at SP stage.	SJCCDD	SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval or Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - *continued*

Impact		Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.8-2	Views from public roads toward Mt. Diablo and the Mt. Diablo foothills to the west of the site would be screened by new buildings.	4.8-2(a) View corridors towards the foothills and Mt. Diablo should be protected and enhanced by the incorporation of east-west vehicle and pedestrian corridors throughout the project site. These corridors should be landscaped with trees to frame views to the west, and should be at least 40 feet wide to allow open views (Figure 4.8-10).	Review of design during SP and verification during construction.	SJCCDD	SP and C
		4.8-2(b) An open space corridor along the project's western edge should be incorporated into the project. Although access should be controlled to minimize trespassing onto adjacent agricultural lands, this area could provide significant views of the hills without the interruption of buildings (Figure 4.8-10).	Review of design during SP and verification during construction.	SJCCDD	SP and C
		4.8-2(c) Sign regulation should occur as discussed under Mitigation Measure 4.8-1(f).	Review at SP stage.	SJCCDD	SP
4.8-3	Industrial buildings along major view corridors could be as tall as 100 feet. Such buildings would create a dominant visual feature in areas that: 1) are not intended as the commercial centers of the project; 2) would contrast significantly with adjoining agricultural lands; and 3) would severely limit views for the motorist. Residential areas proposed adjacent to on-site open space would allow buildings up to 76 feet in height, which would create a strong visual contrast to the open space and also generate long shadows.	4.8-3(a) The maximum allowable height limit for industrial areas should be reduced to 45 feet or less to prevent this land use from being a dominant visual feature of the proposed project, especially when adjacent to residential neighborhoods or open space (Figure 4.8-11).	Review of design during SP and verification during construction.	SJCCDD	SP and C
		4.8-3(b) Industrial buildings should be set back at least 30 to 40 feet from roadways and should incorporate evergreen tree cover adjacent to the roads, especially when adjacent to agricultural lands.	Review of design during SP and verification during construction.	SJCCDD	SP and C
		4.8-3(c) Industrial buildings adjacent to residential neighborhoods should be set back at least 100 feet from residential lots. Evergreen tree cover should screen industrial buildings from residences.	Review of design during SP and verification during construction.	SJCCDD	SP and C

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.8-3(d) The Medium-High Density Residential area proposed adjacent to the marina should have a height limit of 40 feet or less.	Review of design during SP and verification during construction.	SJCCDD	SP and C
	4.8-3(e) The High Density and Medium-High Density Residential areas just west of the open space corridor on the north side of Byron Road should have a height limit of 40 feet or less.	Review of final GPA request and design during SP. Verification during construction.	SJCCDD	GPA and SP and C
4.8-4 Project development could result in the removal of mature trees currently visible from public roads, which frame views along these roads.	4.8-4(a) Any required road widening should include protection of mature trees. For example, when trees are located along the west side (e.g., Patterson Pass Road) or south side (e.g., Grant Line Road), the area used for road widening should be the east or north sides, respectively.	Review of final GPA request and landscaping standards of the SP.	SJCCDD	GPA SP
	4.8-4(b) The Specific Plan should include mapping of all mature on-site trees visible from existing and proposed roads. Provisions to protect existing mature trees, except those that may be unsafe due to age or overall conditions , should be included in the Plan.	Review of final GPA request and landscaping standards of the SP.	SJCCDD	SP and C
4.8-5 The project could generate light and glare which would be visible from major roads, residences within the project, and residences outside the project.	4.8-5 The Specific Plan should include specific descriptions of how light and glare from the project would be minimized. Mechanisms such as screening of parking areas with evergreen trees, setbacks from residential neighborhoods adjacent to commercial areas, and a design review process should be included in the Specific Plan. The design review process should include review of lighting proposals and architectural materials. A design review committee made up of both architects and landscape architects should oversee the design review process.	Review of design during SP and verification of compliance during construction.	SJCCDD	SP and C

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval or and Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ FISCAL IMPACTS				
4.9-1 The proposed project may require more in General Fund-financed service expenditures than generated in General Fund revenues. The imbalance of expenditures over revenues could occur if non-residential land uses develop more slowly than anticipated by the applicant.	4.9-1(a) The County should monitor demand for new services and revenue generation during buildout of the New Town to assure that expenditures are offset by new revenues. As the basis of this monitoring activity, the net fiscal benefit of the project to the County should be estimated annually through, and after, buildout. Depending upon the results of the monitoring, adjustments can be made in service delivery, fees and charges, and/or use of other financing mechanisms. Such adjustments should be adequate to offset costs as necessary and should be a mandatory condition of development approval.	Review during buildout.	SJCCDD	O
	4.9-1(b) Because of the uncertainty regarding market acceptance of the proposed project, and therefore of its buildout schedule, the County should require that alternative financing/ management entities be in place as early as possible to ensure that the project does not siphon General Fund revenues that are needed for other programs. Potential entities include a Mello-Roos Community Facilities District, which could also be used to fund capital improvements, or a Community Services District as proposed by the project applicant. Specific entities should be chosen at the Specific Plan stage of project approval.	Review at SP stage.	SJCCDD	SP
	4.9-1(c) Property tax revenue, along with other revenue sources available to the County for general purposes, would only be used to support existing countywide services. Urban services and higher levels of County services, as required to be provided to the proposed project by the County General Plan or other mitigation measures included in this DEIR, would be funded through project-specific special taxes and/or assessments levied by local special districts. Reallocation of the County's property tax base is limited by State statutes regulating property tax allocation (e.g., Revenue and Taxation Code, section 99). These statutes provide that a reallocation of property tax occurs only insofar as services funded by County property taxes are transferred to Mountain House special districts.	Review at operational stages.	SJCCDD	Once after five to seven years of operations.

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ FINANCIAL IMPACTS				
4.10-1 The capital facilities required by the proposed project may prove too expensive for some project-area homeowners to adequately finance.	4.10-1(a) The Specific Plan for the proposed project should include the following goals: 1) ensure that adequate funding sources have been identified for financing all necessary capital improvements, and 2) provide an equitable and nonburdensome means of sharing the costs of project-related improvements between all parties benefitting from the improvements. These goals should guide the formulation of the financing plan to be included in the Specific Plan. The financing plan should explicitly incorporate the following factors: <ul style="list-style-type: none"> • <u>The actual cost of facilities required.</u> The cost estimates provided for this DEIR are likely to change as the proposed project becomes more refined at the Specific Plan stage. The applicant, as well as all service providers, would need to provide accurate and detailed infrastructure costs to be incorporated into the Specific Plan's financing plan. 	Review at SP stage.	SJCCDD; County Administration Office	SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; ~~(includes Tentative Map approval or and Final Map approvals and other discretionary application approvals)~~; C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	<ul style="list-style-type: none"> • <u>The allocation of costs.</u> An important task for the County Planning Division would be to allocate capital costs in an equitable manner, both to properties within the project site and to properties outside of the project site (conceivably, some capital costs, such as those relating to highway improvements, would benefit properties outside of the project site). This allocation of costs should be performed prior to formation of special districts to finance services/facilities for the proposed project and prior to the specification of impact fees (e.g., fees for transportation facilities) that would be needed to pay for capital improvements. • <u>Ability to pay.</u> The Specific Plan financing plan must ensure that capital cost burdens are reasonable and affordable for local property owners (i.e., the lien amount should not exceed 33 percent of the value of the property or property taxes and assessments should not exceed two percent of the property value). 			
	4.10-1(b) At the Specific Plan stage, the County should negotiate a development agreement that obtains dedications of lands for park development, for streets, and other on-site improvements, and for other municipal-type public facilities.	Review at SP stage.	SJCCDD	SP and PC
	4.10-1(c) Prior to commencement of development, the County should create a localized entity (or entities) within the project site to support public facility improvement financing and ongoing maintenance costs. Such entities include special assessment districts and Mello-Roos community facilities districts. Bonds issued under either type of district could represent an important source of revenues for infrastructure construction, contingency funds, and, in certain cases, ongoing maintenance activities.	Approval of financing entities.	SJCCDD	SP or PC

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ POPULATION, HOUSING, AND EMPLOYMENT				
4.11-1 The proposed project is unlikely to attain a balance between jobs and housing, and would exacerbate the imbalance between jobs and housing that currently exists in both the Tracy Planning Area and San Joaquin County.	<p>4.11-1 A program should be formulated that ties residential development to job growth within the community. The goal of the program would result in a ratio of one employed resident per job. Monitoring of the impact mitigation program would require a report that evaluates the jobs-housing balance within the community, both as a ratio and with regard to affordability issues. The applicant(s) in cooperation with the San Joaquin County Community Development Department could be responsible for preparing the report and for ensuring compliance with the policy that the proposed project attain a jobs-housing balance. A schedule for the report can be included in the Specific Plan. The Public Services and Facilities Plan shall include a Jobs/Housing Program and Monitoring Plan. The program should include specific actions to promote and secure jobs within the community. Goals of the program should include, but not be limited to:</p> <ul style="list-style-type: none"> • Achievement of a ratio of one "in community" job for every employed community resident at buildout of the community, with substantial employment progress throughout the entire development period. • Maximization of working community residents employed within the community. • An aggressive marketing program to attract jobs. 	Biannual Annual report, or, based on project absorption. Verifi- cation of compliance with policy prior to each new development phase.	SJCCDD	SP; O (biannually or based on project absorption)

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; **(includes Tentative Map approval or and Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	<ul style="list-style-type: none"> A policy of land use allocation that would optimize fulfillment of the first three policies. <p>The Monitoring Plan should consist of annual reports of statistical data of the community's employment, population, land use allocations, and other data necessary to measure the recommended changes in the Jobs/Housing program. Changes or modifications in the program may be mandated by the County after any particular annual review to ensure that the goals of the program are being fulfilled.</p>			
4.11-2 The proposed project may not have a sufficient supply of housing that is affordable to workers employed in the community.	4.11-2(a) Each phase of development should be required to include a sufficient quantity of housing that is affordable to workers employed in the community. The necessary quantity and price ranges of this housing should be determined prior to the approval of each phase of development. Overall, a minimum target for affordable units or 25 percent of total residential units should be achieved. Monitoring of the impact mitigation program would require a report that evaluates housing affordability for persons employed within the community. The applicant(s) in cooperation with the San Joaquin County Community Development Department should be responsible for preparing the report and for ensuring compliance with the policy that the proposed project attain a jobs-housing balance.	Biannual report. Verification or compliance with policy prior to each new development phase.	SJCCDD	O (annually)
	4.11-2(b) Some of the projected shortfalls in affordable housing could be eliminated through the construction of more multi-family rental housing as replacement for some of the excess housing in the less affordable range. Housing for low and very-low income households, however, may require some form of subsidy to ensure its development.	Review at SP stage.	SJCCDD	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.11-3 The least-expensive housing proposed for development at the project site may not be affordable for low-income residents of San Joaquin County.	4.11-3 The County should develop guidelines for an affordable housing plan for new communities. This plan should be part of the required Specific Plan and should be geared towards the unique housing mix requirements of a new town. It should be sensitive to the long term housing needs of the community. For example, even if there is no retirement housing planned initially, long term residents may create that demand in 20 years or so.	Review at SP stage. Biannual report. Verification of compliance with policy prior to each new development phase.	SJCCDD	O (annually)
4.11-4 The proposed project would capture demand for some residential and nonresidential land uses that would otherwise go to the City of Tracy.	4.11-4 The reduction of population and employment growth in Tracy that results from implementation of the proposed project cannot be mitigated unless the project is denied, or the project becomes part of the City of Tracy.	None necessary.	---	---
■ PUBLIC HEALTH AND SAFETY				
4.12-1 Potential past or future releases of fuel products from storage tanks and/or pipelines may result in environmental degradation and public health hazards.	4.12-1(a) Preliminary site assessments, in accordance with the requirements of the County Environmental Health Department, should be undertaken by a qualified professional in areas of known or suspected fuel releases, prior to development.	Completion of site assessments by qualified professional and approval of assessment by SJCEHD.	SJCEDH	PC
	4.12-1(b) Any contamination identified by the preliminary assessments should be investigated and remediated, if required, prior to construction to reduce potential exposure of construction workers and the public to hazardous materials and to prevent further environmental degradation. Remediation of soils could include excavation and on- or off-site treatment or disposal or in-place treatment of the affected soils.	Investigation and remediation by a qualified professional. Verification of remediation by SJCEHD.	SJCEHD	PC

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval or and Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.12-1(c) If the groundwater had been affected by fuel releases, remediation could be required. Such remediation could include: groundwater extraction and treatment; disposal of the treated water to surface waters; or reinjection into the groundwater. Extraction of groundwater without reinjection could affect the water resource supplies in the area.	Verification of remediation, if necessary.	RWQCB and SJCEHD	PC
	4.12-1(d) The location of all existing and abandoned fuel lines should be established in the Specific Plan so that any required setbacks can be incorporated. Prior to construction near the existing and abandoned buried fuel lines, the location of the lines should be accurately further established (e.g., accurate maps from the owner and/or operator or geophysical surveys).	Review at SP stage. Provision of required map to SJCCDD.	SJCCDD	SP and PC
	4.12-1(e) All construction near the existing or abandoned fuel lines should be undertaken following a site-specific health and safety plan to protect the welfare of the workers. If contamination were identified, investigation and remediation should be undertaken in accordance with the requirements of the County and the Regional Water Quality Control Board.	Completion and approval of the health and safety plan. Verification of compliance with plan and remediation, if necessary.	SJCEHD and RWQCB	PC and C
	4.12-1(f) Construction at the locations of aboveground fuel storage tanks should occur in accordance with site-specific health and safety plans unless it has been previously determined that releases have not occurred from the operation of the tanks. Such determination could be made by inspection of the tanks and/or soil sampling under or near the tanks.	Completion and approval of the health and safety plan. Verification of compliance with plan and remediation, if necessary.	SJCEHD and RWQCB	PC and C
	4.12-1(g) The applicant should obtain the approval of owners of buried fuel pipelines that cross the project site for construction and development plans.	Review prior to construction.	SJCEHD	PC
4.12-2 Public and environmental health may be affected by potential historic pesticide and/or herbicide residues in the environment.	4.12-2(a) A preliminary assessment of the presence of chemical residues from pesticide and herbicide use should be completed by a qualified professional prior to approval of the Specific Plan.	Completion of assessment by qualified professional. Approval of assessment by SJCEHD.	SJCEHD and San Joaquin County Agricultural Commissioner	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.12-2(b) Specific areas where pesticides and herbicides were stored, handled, or disposed of should be investigated prior to development of the Specific Plan for the construction at the project site.	Investigation by qualified professional and approval by SJCEHD.	SJCEHD	SP PC
	4.12-2(c) If chemicals were detected at concentrations that could pose a risk to the environment, remediation of the affected areas should be undertaken prior to project construction. Remediation should be conducted in accordance with the requirements of either the California Department of Toxic Substances Control and/or the Regional Water Quality Control Board. Remediation could include soils removed to a permitted landfill, on-site treatment and on- or off-site disposal, or placement of affected soils in areas that would not provide exposure to users of the site.	Verification of remediation, if necessary.	DTSC, RWQCB, and SJCEHD	PC
	4.12-2(d) Pesticide- and herbicide-containing soils (with concentrations in excess of regulatory action levels) should not be placed or exposed in residential development areas where residents could be exposed to the chemicals through ingestion, inhalation, or skin contact.	Verification of completion of recommended procedures identified in investigation (4.12-2(b)).	SJCEHD	PC
	4.12-2(e) Following grading activities in residential areas, the applicant should demonstrate to the County that exposed soils do not contain pesticides or herbicides in excess of regulatory action levels.	Soil sampling by qualified professional and report to verify compliance.	SJCEHD	C
	4.12-2(f) To reduce the potentially adverse effects of aerial pesticide spraying on the health of residents and employees of the project site, a 1,000-foot wide buffer zone should be established along the western site boundary or aerial spraying shall be restricted.	Refer to 4.1-2(a).	SJCEHD	SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; **(includes Tentative Map approval or Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.12-3 The surface water and groundwater may have been affected by past agricultural uses on and adjacent to the site, which could affect future users of the site. These waters could continue to be affected by on-site dairy operations until Phases III and IV of the proposed project.	4.12-3(a) For those areas on the project site supporting livestock, livestock waste management controls should be established to control runoff. Such controls could include limiting livestock access to surface water and containerizing the wastes to prevent leaching to the groundwater.	Verification of implementation of controls.	SJCCDD	O
	4.12-3(b) Any domestic or irrigation wells that are not in use, or do not have effective sanitary seals, should be abandoned prior to project construction to prevent the wells from acting as conduits for contaminants migrating from the surface to the groundwater.	Verification of abandonment of wells.	SJCBD SJCEHD	PC
4.12-4 Soil and water may be contaminated from heavy metals and oil-based compounds remaining from abandoned natural gas well drilling muds and could affect future users of the site.	4.12-4 The area within a 200-foot radius of each of the five abandoned natural gas well heads within the project site (Figure 4.12-1) should be investigated by a qualified professional to determine if the drilling muds are present and, if so, whether concentrations of heavy metals and oil-based compounds are present at concentrations that may affect public and environmental health. If the muds contain concentrations of chemicals above regulatory action levels, the drilling muds and any adjacent affected soil should be removed and/or remediated in accordance with regulatory requirements. The investigation should occur prior to development of the Specific Plan tentative approval of any development permits . Removal and/or remediation of contaminated soils should occur prior to project construction in the vicinity of the well heads.	Investigation by qualified professional. Verification of remediation, if necessary.	SJCEHD	SP and PC
4.12-5 Potential health impacts may result from public exposure to PCBs associated with transformers or electromagnetic fields associated with overhead electrical lines.	4.12-5(a) The applicant should request information from PG&E on the presence of any transformers containing PCBs, and any records of spills from such equipment. If PCB-containing equipment (50 to 500 parts per million PCBs in the oil) or PCB equipment (over 500 parts per million) were identified, this equipment should be replaced with non-PCB containing equipment. Any identified spill areas should be evaluated for cleanup. The applicant would be responsible for the costs of testing and replacing PCB-containing transformers.	Copies of information requests provided to SJCCDD by applicant. Evaluation and remediation, if necessary.	SJCEHD	SP and PC

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.12-5(b) The applicant should request information from PG&E on the calculated strengths of the electric and magnetic fields generated by the Weber-Herdlyn and Rio Oso-Tesla lines, and the proposed Rancho Seco-Tesla line. Field strengths should be identified at the edges of the existing rights-of-way and at 50, 100 and 200 feet from the edges of the rights-of-way. Field strengths should be calculated for a range of loading conditions including average load and maximum anticipated load.	Review at SP stage.	SJCEHD	SP
	4.12-5(c) Land adjacent to transmission line easements should be planned for recreational use or open space, to the maximum extent possible. The applicant should continue to evaluate the field strength information for the existing and proposed transmission lines in light of new research findings to identify whether setback distances for structures intended for human occupancy would be appropriate.	Review at SP stage.	SJCCDD; SJCEHD	SP
	4.12-5(d) The proposed high school and elementary school south of Grant Line Road and adjacent to existing and proposed electrical transmission line easements should be relocated. This relocation should be identified in the Specific Plan.	Review at SP stage.	SJCCDD	SP
	4.12-5(e) The applicant should develop public informational material on the potential health problems caused by exposure to EMF from all sources, including overhead transmission lines. The public informational packet should include information about field strengths that could be experienced adjacent to the transmission line easements as developed in Mitigation Measure 4.12-5(b). The public informational packet should be provided to residents or occupants of structures located adjacent to the existing or proposed transmission line easements.	Verify at occupancy of units.	SJCCDD	O
	4.12-5(f) Any metal structures or objects located near transmission line easements should be grounded to avoid nuisance induction effects such as shocks (experienced upon initial contact).	Monitor at construction stage.	SJCBD	C

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.12-6 Asbestos, if present in existing farm structures, could cause adverse health impacts to workers during renovation and/or demolition.	4.12-6 Structures that would be removed or renovated as part of the project should be screened or surveyed for the presence of asbestos-containing materials. If asbestos were present, renovation and/or demolition should be undertaken only by licensed asbestos abatement contractors trained in proper asbestos removal and disposal procedures.	Screening and remediation should be completed by a qualified professional. Verification of completion should be provided by applicant.	SJCBD	PC and C
4.12-7 Materials disposed of at the small household landfill on the site may have affected soil and groundwater quality.	4.12-7 The applicant should demonstrate that the disposed materials do not constitute a health or environmental hazard. Such demonstration could be achieved through removal of disposed material in conjunction with soil sampling and groundwater sampling.	Soil and groundwater sampling by qualified professional. Demonstration of adequate removal, if necessary, provided by applicant.	SJCEHD	PC
4.12-8 The project could result in increased use, storage, and disposal of hazardous materials.	4.12-8 No mitigation measure would be required if applicable statutes and regulations were followed by businesses associated with the project.	None necessary.	---	---
4.12-9 Failure or overtopping of the levees along Old River and canals at the northern boundary of the project site could result in flooding, posing risks to human health and safety and property.	4.12-9 The applicant should prepare an Emergency Response Plan for the project which includes procedures for response to flooding events. The plan should present an emergency communication system, identify emergency coordinators, and establish evacuation procedures. The Emergency Response Plan should be reviewed and approved by the San Joaquin County Office of Emergency Services prior to approval of the Specific Plan.	Review at SP stage.	SJC Office of Emergency Services	SP
4.12-10 Open water bodies within the project site could provide active breeding sites for mosquitos, potentially causing an environmental nuisance condition and disease transmission.	4.12-10 The applicant should prepare and submit a mosquito abatement program as part of the Specific Plan. The program should identify expected and potential areas conducive to active breeding of mosquitoes. The program should present specific mosquito abatement techniques which would minimize potential degradation of water quality. The program should be submitted to the San Joaquin County Mosquito Abatement District for review and approval. The applicant should be responsible for implementation of the program.	Review at SP stage.	SJC Mosquito Abatement District and SJCCDD	SP

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.12-11 The development of the project may increase the potential for public exposure to explosives, fire, or the release of materials during railway accidents on the railway line crossing the northern portion of the project site.	4.12-11 Businesses and public institutions located adjacent to the established buffer zone should maintain emergency contingency and evacuation plans for the event of a catastrophic accident.	Review at occupancy of relevant businesses.	SJCEHD	As needed.

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ BIOLOGICAL RESOURCES				
4.13-1 Development of the proposed project would result in the elimination of all existing agricultural wildlife habitat, totaling approximately 4,270 acres. Some of this habitat is used by State and Federal protected wildlife species.	4.13-1(a) The entire area north of Byron Road containing approximately 1,500 acres should be set aside as an agricultural preserve to be enhanced and managed for the Swainson's hawk and other protected wildlife species. Given the minimum mitigation bank foraging acreage to support one pair of Swainson's hawk (CDFG, 1990), preservation of this portion of the project site should adequately accommodate the one known pair that forages there, plus numerous other observed individuals. This latter group may have also included pairs which were not as easily recognized as the pair with contrasting color patterns. Support for this idea is given in the habitat conservation plan for this hawk in San Joaquin County which documents nine off-site Swainson's hawk nests or nesting pairs within 10 miles of the Byron Road Old River segment of the project site (Jones & Stokes, 1990) (Figure 4.13-11). Ten miles is the accepted average foraging distance for one Swainson's hawk pair (CDFG, 1990).	Verification at SP stage.	SJCCDD	GPA and SP
	4.13-1(b) A management and enhancement plan should be developed and implemented for the recommended agricultural preserve (see Mitigation Measure 4.13-1a), which will ensure a highly productive foraging habitat in perpetuity for the Swainson's hawk. The management and enhancement plan should include the enhancement of the riparian zones of Old River and Mountain House Creek.	Submittal of enhancement plan; on-site verification.	SJCCDD; DFG applicant	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.13-1(c) The recommended management and enhancement plan should seek to create agreements with the present and future owners whereby a guaranteed minimal acreage of alfalfa would always be in production. This guarantee would be accomplished by designing a master decade-by-decade alfalfa rotation plan to which all farm owners and operators must adhere. It would also specify what crops would be beneficial to hawks during the normal one-year soil reconditioning period between alfalfa rotations. Other provisions of the agreements would focus on the vegetation of irrigation ditch banks and the dedication of small segments of land throughout the area to fallow plots on which natural vegetation could develop.	Review of plan by DFG and SJCCDD.	DFG; SJCCDD	SP and O
	4.13-1(d) The management and enhancement plan should clearly state that rodenticides should be strictly prohibited along with the use of any wildlife "scare guns." Fire crackers and hunting should not be allowed. The final element of the recommended management and enhancement plan should be a monitoring program that would provide an annual written review submitted to the DFG for the first five years and thereafter every three to five years.	Establish monitoring program for review by DFG yearly for five years and once per three or five years. On-site verification.	SJCCDD; DFG	SP; O; yearly for first five years and then every three or five years.
	4.13-1(e) To confirm the presence of the San Joaquin kit fox, additional surveys should be undertaken during the first half of 1992 when the kit fox pups are active outside of the den. This survey should be conducted prior to approval of the Specific Plan. Results of the survey may conclude that on- or off-site mitigation would be required. If off-site mitigation is recommended, the land use map would not change. However, acquisition for off-site habitat should occur prior to adoption of the Specific Plan. If on-site mitigation is required, a General Plan amendment must be adopted prior to adopting the Specific Plan.	DFG review and approval of survey design, implementation, and findings.	DFG	SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval or and Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

7.1 MITIGATION MONITORING PROGRAM
Biological Resources

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.13-1(f) <u>Alternative.</u> In lieu of setting aside acreage on-site as described in 4.13-1(a) above, off-site mitigation could be considered, providing the new site meets the following criteria: 1) represents a wildlife corridor connecting the Byron-Marsh Creek area with the west Tracy area and containing alfalfa, irrigated pasture, and alkali sink in similar proportions to the project site; 2) abuts river/riparian zone; 3) contains feeding perches; 4) has roosting and nesting sites nearby; and 5) is undisturbed by noisy human activities. This area would be subject to the management and enhancement plan described above, but tailored to fit the specifics of the chosen site.	Submittal of deed restrictions for off-site location.	SJCCDD Applicant	SP
4.13-2 The project would block the movement of most terrestrial species listed in Appendix 10.16 between the eastern base of the Altamont Hills and the Delta-farmland region to the east.	4.13-2(a) A wildlife corridor should be developed and maintained along the entire length of Mountain House Creek through the project site. The width of the corridor should be a minimum of 100 feet on each side of the creek measured from the upper edge of the bank centerline of the creek. The creek bed should be cleaned of silt and enhanced through the construction of occasional pool areas. The buffer zone should be planted with riparian vegetation, including native riparian trees such as Fremont cottonwood, sycamore, and willow.	Review/approve restoration plan prepared by a qualified biologist.	DFG; SJCCDD	SP and PC
	4.13-2(b) Hiking and bike paths for this area should be placed on the outer edge of the riparian zone, and human access into the zone should be discouraged through the use of unobstructive fencing and informative signs.	Verification at SP stage.	SJCCDD	SP
	4.13-2(c) Streets crossing this corridor should be minimized and designed to allow for free movement of wildlife which may use the corridor.	Verification at SP stage.	SJCCDD	SP
	4.13-2(d) A habitat monitoring plan for the restored corridor should be developed and implemented for the first five years of its existence to ensure the successful establishment of the riparian vegetation complex and to assign responsibility for maintenance.	Annual/every five years review of monitoring program. On-site verification.	SJCCDD; DFG	SP; O

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.13-3 Development of the project site would eliminate seasonal wetlands and periodic wetland areas such as irrigated pastures and drainage swales.	4.13-3(a) The 3.3-acre emergent wetland in the north area of the site should be preserved and expanded to approximately twice its current size to mitigate for the presumed loss of additional emergent wetland segments (approximately seven acres) resulting from the development of the acreage south of Byron Road. A qualified professional should oversee the preservation and enhancement project and be responsible for its maintenance. According to Section 404 of the Clean Water Act, the applicant would be required to obtain approval from the U.S. Army Corps of Engineers for any impacts on wetlands and a wetlands mitigation plan would be required.	Review at SP stage. On-site verification.	SJCCDD; DFG	GPA; SP; C; O
	4.13-3(b) A specific proposal or design of the 40-acre wetland should be included in the Specific Plan, providing State and Federal wildlife agencies have approved of this concept.	Review at SP stage.	SJCCDD; DFG	SP
4.13-4 Construction and operation of the proposed 60-acre marina would impact the productive inshore zone and riparian edge habitat of Old River.	4.13-4(a) The proposed 60-acre marina should be eliminated in favor of a boat launch ramp and day use parking lot for the private use of the residents of the new community. Boats with motors exceeding 10 hp should not be permitted in this segment of the River. This facility could be fashioned along the lines of other San Joaquin County public use ramps and picnic areas such as those located off Manley Road in the Mossdale area and at the end of Dos Reis Road west of Lathrop. This would provide easy access to the Delta system for the residents of Mountain House New Town while at the same time eliminate many of the potential hazards to the Old River aquatic system caused by a marina operation.	Review at SP stage.	SJCCDD	SP
	4.13-4(b) Signs should be posted restricting boat traffic and limiting boat speeds to 5 mph along the length of the project site fronting Old River.	On-site verification.	SJCCDD	O
	4.13-4(c) Also refer to mitigation measures in Section 4.7, Hydrology and Water Quality.	---	---	---

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; **(includes Tentative Map approval or and Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.13-4(d) Prior to approval of the Specific Plan, a survey should be conducted along the banks of Old River extending the length of the project site to confirm the presence of the California hibiscus, a Federal candidate 2 species. This survey must be done in August and September, the plant's blooming period.	Review at SP stage.	SJCCDD	SP
	4.13-4(e) A survey should be conducted of Old River along the segment bordering the project site to confirm the presence or absence of the Delta smelt. The survey should be conducted with the use of an otter trawl at intervals during the spring spawning season and prior to approval of the Specific Plan. If the species were detected, policies and specific measures for its protection should be incorporated into the Specific Plan.	Review at SP stage.	SJCCDD	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ TRANSPORTATION				
<p>4.14-1 The Proposed Project Scenario would generate up to 249,000 daily vehicle trips to, from, or within the project site in 2010 assuming current rates of trip-making. The Market-Constraint Scenario would generate up to 177,000 daily vehicle trips to, from, or within the project site in 2010. With either project scenario, the added trips would contribute significantly to projected traffic growth, increases in vehicle miles traveled, and LOS deficiencies on the road system, particularly in the vicinity of the site. Some of these impacts would be unavoidable and significant. Specific facilities and locations of these impacts are described in subsequent impacts.</p>	<p>4.14-1(a) The County should prepare and implement a countywide Transportation Systems Management (TSM) program to promote and facilitate use of alternative modes to the single-occupant vehicle within the County. The program should include measures such as continuation and expansion of the County rideshare program, transportation coordinators at employment sites, provision of park-and-ride lots throughout the County, and development of a network of high occupancy vehicle (HOV) lanes.</p>	<p>Approve TSM program.</p>	<p>SJCCDD and Board of Supervisors</p>	<p>O</p>
	<p>4.14-1(b) The County should prepare and adopt a countywide Trip Reduction Ordinance (TRO) as part of the County's Development Title. The TRO would require major employers in the County, including those within the proposed project, to reduce their peak-hour auto trips through site-specific ridesharing and transit programs and through staggered or flexible work hours programs. The TRO should also set forth specific goals for traffic reduction and require employers to survey their employees each year to monitor the progress of vehicle trip reduction measures.</p>	<p>Adopt TRO.</p>	<p>SJCCDD and Board of Supervisors</p>	<p>GPA or SP</p>

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; **(includes Tentative Map approval or and Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.14-1(c) The project sponsor should establish a Transportation Management Organization (TMO) to carry out requirements of the countywide TRO within the project. The TMO should establish and implement a site-specific Travel Demand Management (TDM) plan, including ongoing funding and monitoring and inclusion of TDM elements in lease agreements. The plan should, at a minimum, meet requirements of the County's Congestion Management Plan.	Approve TDM plan.	SJCCDD; SJCDPW	SP
	4.14-1(d) The project sponsor should provide on-site facilities and amenities to promote and facilitate use of alternatives to the single-occupant vehicle for longer trips to and from the project site. These facilities should include: <ul style="list-style-type: none"> • Provision of numerous park-and-ride lots at appropriate locations within the project (12 sites have been identified by the project sponsor, as shown in Figure 4.14-5). Site design should include bus loading areas and transit rider safety and comfort amenities (e.g., sheltered benches, lighting, bus schedules, transit information numbers, and waste receptacles). • Provision of a bus transit center in the town center area (see Figure 3.7). The transit center should provide comprehensive transit information, including information such as route maps; service frequencies of local transit service over the course of the day; maps, schedules, and phone numbers concerning connections to regional transit providers (e.g, BART, AC Transit, Contra Costa County Transit Agency) and shuttle service to and from employment centers; and information about disabled access provisions on transit lines servicing the center. • Promotion, with State and County assistance, of lanes for priority HOV access to/from the project site (e.g., HOV bypass lane at metered on-ramps to I-580 at Grant Line Road and I-205 at Patterson Pass Road). • Provision of bus pullouts and shelters along potential bus routes within the project site. Bus schedules should be posted at all bus stops. 	Review at SP stage. Ensure compliance after construction.	SJCCDD	SP; O

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	<ul style="list-style-type: none"> Provision of bicycle and pedestrian networks to link residential areas with park-and-ride lots and secured bicycle storage should be provided at these locations. 			
	<p>4.14-1(e) The project sponsor, through the TMO, should ensure an adequate level of external, commute-oriented transit service for the project residents and workers. Transit service (fixed route or dial-a-ride) that provides connections to the nearest urban areas or transit hub should be provided from the outset of housing occupancy, as required by policy of the Draft San Joaquin County Congestion Management Program. Later phases should include commuter express bus service between the project site and major employment sites in San Joaquin County and Alameda County such as Tracy, Manteca, San Ramon, Pleasanton, and Livermore. The TMO should coordinate all transit service for the project with the County to promote development of a coordinated countywide service plan. The TMO should also disseminate information on transit routes and schedules at locations throughout the community. The project sponsor, through the TMO, should provide fair-share funding of these transit services. Fair-share funding would vary depending on the type of service. For example, funding could be split equally between major employers and the project sponsor, who would provide a substantial number of workers for regional employment centers. The sponsor should underwrite the transit operating costs until such time that an agreement is made between a countywide transit agency and the TMO to fund and operate the transit services. The sponsor should be responsible for funding transit connections between future regional transit service endpoints (e.g., BART in Livermore or East Dublin) and the project site where and when warranted by commute demand.</p>	Monitor compliance during first three years of each phase of development.	SJCCDD; SJCDPW	O; yearly for first three years of each phase

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW: San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval and Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.14-1(f) Local transit service should be provided within the project site with frequent service intervals during peak periods to facilitate non-vehicle travel on internal roads. Stops should provide amenities including covered seating and scheduled stop times and frequency of service over the course of the day.	Review at SP stage.	SJCCDD; SJCDPW	SP; once per year for first year of each phase
	4.14-1(g) The project sponsor should develop a traffic and land use occupancy monitoring program. The monitoring program would serve as a means of comparing the actual development of the project to the original phasing schedule, and would allow improvements to be tailored to actual project development. Monitoring would also provide the County with a means of assessing the degree to which the sponsor's commitment to ridesharing and transit usage is successful. It is also critical for State highway impact monitoring. Monitoring should be conducted once every year. Land use occupancy information should include specific land use type (e.g. medical office, neighborhood shopping center, low-density apartment); quantity (e.g. number of units, square footage); location; and total number of employees. Traffic monitoring should include a minimum of three weekday 24-hour traffic counts broken into 15-minute increments on all roads connecting the project site to surrounding County roads. The traffic and land use monitoring program should be the responsibility of the on-site TSM coordinator.	Review at SP stage.	SJCDPW; SJCCDD	SP; once per year during occupancy
	4.14-1(h) Design guidelines for residential and commercial development within the project should be established to facilitate safe and convenient pedestrian access to transit stops. Transit stops should be located within convenient walking distance (one-quarter mile or less) of employment and commercial areas within the site. Such guidelines should be included as part of the Specific Plan.	Review at SP stage.	SJCCDD	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.14-1(i) Local-serving commercial uses throughout the project site should be provided to facilitate walk trips for local shopping. Local retail facilities are not sufficiently dispersed throughout the site, as currently proposed, to allow walk access by a majority of residents. By providing a larger number of small local commercial sites, the same total local-serving commercial area could be provided but the accessibility via non-automobile travel could be substantially increased. Additional commercial uses should be identified at the time of the Specific Plan.	Review at SP stage.	SJCCDD	SP
	4.14-1(j) San Joaquin County, with the participation of Alameda County and others, is undertaking the Altamont Pass Rail Corridor Study in early 1992. This study will evaluate feasibility and options for operating commuter rail or other transit service in the corridor between Stockton and the Bay Area. Should passenger rail service on either the UP or SP tracks be determined to be feasible and sufficient patronage be identified to warrant a station near the project site, the project sponsor should contribute a fair share toward a rail station to serve the project and should fund feeder bus service to the station.	Review at completion of Rail Corridor Study and at SP stage.	SJCCDD	SP and PC
	4.14-1(k) The overall size of the project could be downscaled to reduce traffic generation of the project and associated adverse impacts on the transportation system. It should be noted, however, that reducing the size of the project would not mitigate all identified adverse impacts of the project since, on many regional facilities, cumulative traffic levels without the project (as indicated for the No Project Scenario) are projected to exceed capacities.	Review at GPA stage.	SJCCDD	GPA

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval or Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

7.1 MITIGATION MONITORING PROGRAM
Transportation

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.14-2 The project would increase 2010 traffic volumes on study area freeway segments by 3 to 18 percent over cumulative levels projected without the project, resulting in deficient Levels of Service at a number of locations along I-580 and I-205.	4.14-2(a) The project proponent should be required to fund their fair share of the cost of preparing a Project Study Report, according to Caltrans standards, for the I-580 freeway over the Altamont Pass. The project proponent, with the County, should work with Caltrans Districts 4 and 10 and Alameda County to evaluate the potential for implementation of truck climbing lanes on the uphill portions of I-580 over the Altamont Pass.	Proof of funding.	SJCCDD; SJCDPW; Caltrans	SP and PC
	4.14-2(b) As part of any Project Study Report(s) required to be prepared by the project proponent to study the most impacted freeway interchanges and identify specific required improvements (see Mitigation Measures in the next section), the developer should also be required to analyze in greater detail the impacts of the project on the mainline freeways affected by the project . The Project Study report(s) should identify the project proponent's fair share contribution to the funding of future freeway lane widenings. The developer should be required to fund the fair share contribution prior to when the impacts are expected to occur.	Approval of Project Study Reports.	SJCCDD; SJCDPW; Caltrans	SP and PC
	4.14-2(c) The project sponsor, with the County, should be required to coordinate the preparation and adoption of Project Study Report(s) with for any Specific Infrastructure Plans. A comprehensive Infrastructure and Financing Plan that considers all phases of the project should be required to be prepared by the project sponsor and adopted by the County, prior to the approval of any Specific Plans. The Infrastructure and Financing Plan should identify the specific freeway mainline and interchange improvements that would be required to serve each phase of development, and should recommend a schedule for the preparation and adoption of Project Study Reports to implement these improvements. The County should not approve the Specific Plan for the first phase of the project until the required freeway improvements and funding sources for that phase have been identified and the Project Study Report schedule has been approved by Caltrans.	Approval of Project Study Reports.	SJCCDD; SJCDPW; Caltrans	SP and PC

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.14-2(d) A Specific Plan for each phase of the project should be prepared and approved to ensure that industrial and commercial job development does not occur later than as proposed by the project sponsor. A monitoring program should be implemented for each phase prior to approval of the next phase to ensure that the assumptions regarding the amount of internal travel remain valid. Monitoring is also addressed under Mitigation Measure 4.14-1(f).	Review at each SP stage.	SJCCDD	SP
4.14-3 The project would increase traffic volumes on adjacent freeway interchanges and require interchange improvements.	4.14-3(a) The project proponent should initiate and fund the preparation of a Project Study Report for the I-205/Patterson Pass Road interchange prior to the first phase of development to identify the specific improvements that would be required. After improvements are identified, the project proponent should be required to fund the project's fair share of the needed improvements. Additional turn lanes and other ramp interchange improvements should be constructed as necessary based on the phasing plan adopted for the project, including a partial cloverleaf interchange at Patterson Pass/I-205. The Project Study Report prepared for improvements at this interchange should identify specific lane, turn storage, and signalization needs for each development phase.	Review at SP stage.	SJCCDD; SJCDPW; Caltrans	SP; PC
	4.14-3(b) Additional freeway interchanges in the area, such as Grant Line Road/I-580 and 11th Street/I-205, should be studied in more detail when a Specific Plan is prepared for the second phase of the project or earlier . If the Specific Plan indicates the need, the project sponsor may also be required to initiate and prepare a Project Study Report for these two additional interchanges during prior to the second phase of development. The possibility of adding a new interchange at Hansen Road/I-205 may also require study.	Review at SP stage.	SJCCDD; SJCDPW	SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage: **(includes Tentative Map approval or and Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

7.1 MITIGATION MONITORING PROGRAM
Transportation

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.14-3(c) As already noted in Mitigation Measure 4.14-2(c), the project sponsor should be required to coordinate the preparation and adoption of Project Study Reports with any Specific Plans.	Review Project Study Reports.	SJCCDD; SJCDPW; Caltrans	SP
	4.14-3(d) At the time of reconstruction of freeway interchanges, ridesharing and transit usage should be promoted by providing ramp metering and HOV bypass lanes on all reconstructed interchanges.	Review/approve plan for freeway interchanges.	SJCDPW; Caltrans	SP
	4.14-3(e) As part of the Project Study Report(s) prepared by the project sponsor for the I-205 and, possibly, I-580 interchanges, additional improvements to the mainline freeway facilities required to mitigate project impacts should be identified. The project sponsor should be required to fund the project's fair share cost of the lane improvements.	Approval of Project Study Reports.	SJCCDD; SJCDPW; Caltrans	SP
4.14-4 The project would contribute to the need for improvements on Altamont Pass Road, 11th Street, Grant Line Road (between Altamont Pass Road and I-580), and Grant Line Road east of Byron Road.	4.14-4(a) The project sponsor should contribute a proportionate share toward the cost of future improvements on 11th Street, Altamont Pass Road, Grant Line Road between Altamont Pass Road and I-580, and Grant Line Road east of Byron Road (Figure 4.14-10). Proportionate shares toward improvement costs should be based on the proportion of future traffic increases due to the proposed project. Defining the fair share would require coordination between the project sponsor, the City of Tracy, and San Joaquin County at the time of the preparation of the Infrastructure and Financing Plan, accompanied by the first phase Specific Plan. Improvements within Alameda County should be reviewed by and coordinated with Alameda County. San Joaquin County should consider developing a program of traffic impact fees in order to provide cities with funding for improvements to accommodate traffic from new town developments.	Review at SP stage.	SJCCDD; SJCDPW; City of Tracy	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.14-4(b) The project sponsor should contribute a fair share toward extending local transit service from the City of Tracy to the project site to reduce the number of project vehicle trips on 11th Street and Grant Line Road East. Specific arrangements for funding and operating the transit service should be determined by the County, the City of Tracy, and the project sponsor, and should be consistent with countywide transit service arrangements.	Review at SP stage.	City of Tracy; SJCCDD; SJCDPW	SP
	4.14-4(c) The County should consider realigning Grant Line Road to form a continuous segment where it meets Byron Road. As part of the realignment of Grant Line Road, need for a grade-separated crossing of the existing Southern Pacific railroad tracks should be evaluated.	Review at SP stage.	SJCCDD; SJCDPW	SP
	4.14-4(d) The project sponsor should either provide a southbound HOV lane and associated ramp metering improvements along Grant Line Road between the project site and I-580, or should be responsible for providing a fair share of an additional travel lane in each direction on Altamont Pass Road between Grant Line Road and I-580.			
4.14-5 The project would significantly increase traffic volumes on County roads in the immediate vicinity of the project site.	4.14-5(a) Roads providing access to the project site should be widened over time as shown in Table 4.14-16 to accommodate project traffic impacts at each phase of development. With the exception of Byron Road, all these roads would require capacity improvements as a direct result of the project. The project would contribute a majority of added traffic to Byron Road between the project site and Grant Line Road west.	Review at SP stage.	SJCCDD	SP
	4.14-5(b) At the Specific Plan stage, the integration of transit facilities and site plans for individual development sites should be detailed further.	Review at SP stage.	SJCCDD	SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval or and Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

7.1 MITIGATION MONITORING PROGRAM
Transportation

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.14-6 Project-generated trips would result in significant traffic levels on roadways internal to the site, requiring construction of a comprehensive network of adequately sized internal roadways. Internal roadway needs would be slightly greater with the Proposed Project Scenario than with the Market-Constraint Scenario.	4.14-6(a) The internal road adjacent to the Freeway Commercial parcel in the project's southeast corner should be upgraded to major arterial status with six travel lanes by 2010. This road would constitute the primary access to that portion of the project site south of Grant Line Road. Six lanes on this segment would provide sufficient capacity to provide LOS D operation, closely approaching LOS C. This road should either be shifted to the north to allow greater weaving distance on Patterson Pass Road south to I-205, or should be combined with the collector road shown across from existing Von Sosten Road to form a single arterial roadway entrance to the southwest corner of the project.	Review at SP stage.	SJCCDD; SJCDPW	SP
	4.14-6(b) Under the Proposed Project Scenario, the north-south minor arterial proposed for the west side of the project site (Figure 4.14-5) should be upgraded to a six-lane major arterial between the proposed town center and that portion of the site north of Byron Road by 2005.	Review at SP stage.	SJCCDD; SJCDPW	SP
	4.14-6(c) Options for direct access between Byron Road and the northern portion of the site should be considered, such as flyover ramps to and from Byron Road or interchanges where Byron Road passes under the proposed major arterial extension of Patterson Pass Road. Any such direct access alternative should include a grade-separated railroad crossing. This mitigation measure would reduce delay for travel between the site and the City of Tracy by providing a less circuitous connection between Byron Road and the portion of the site north of Byron Road.	Review at SP stage.	SJCCDD; SJCDPW	SP
	4.14-6(d) The Specific Plan should provide for development of an additional minor arterial in the west-central area of the site that would allow internal arterials in this portion of the site to remain four lanes at buildout or, alternatively, expand the currently proposed minor arterial to six lanes in this segment.	Review at SP stage.	SJCCDD; SJCDPW	SP
	4.14-6(e) The collector roadway couplet connection between Patterson Pass Road and the town center should be eliminated.	Review at SP stage.	SJCCDD; SJCDPW	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.14-7 The project would generate a significant demand for parking.	4.14-7(a) Further detailed analysis of parking demand, parking supply, and shared parking opportunities should be undertaken during the Specific Plan process when detailed site plans become available. Parking provisions should comply with requirements of the County's prevailing Congestion Management Program.	Review at SP stage.	SJCCDD	SP
	4.14-7(b) Where feasible, mixed-use districts should be developed to maximize the use of shared parking and reduce the total land area need for parking.	Review at SP stage.	SJCCDD	SP
4.14-8 The project would increase the demand for bicycle travel within the project site as well as between the site and adjacent developed areas.	4.14-8(a) Bicycle use between the project and other nearby developed areas should be encouraged by the provision of Class II bicycle lanes on major arterials and County roads connecting the site to Tracy and Alameda County. The sponsor's proposed bicycle facilities and accommodations should be incorporated into Specific Plan design standards.	Review at SP stage.	SJCCDD	SP
	4.14-8(b) A continuous Class II bicycle lane should be extended by the project sponsor into the City of Tracy. Grant Line Road should be considered for continuous bicycle lanes between the project site and the City of Tracy.	Review at SP stage.	SJCCDD	SP
	4.14-8(c) The sponsor should provide fair share funding for a A continuous bicycle route should be provided by the sponsor along Altamont Pass Road or a comparable route to connect the project site and Alameda County.	Review at SP stage.	SJCCDD	SP
4.14-9 The project would increase the number of vehicles crossing the existing Southern Pacific railroad track that runs through the site.	4.14-9(a) Improvements provided by the project sponsor at the two at-grade crossings within the site on Kelso Road and Henderson Road should include crossing gates, lights, and appropriate signage. Pedestrian access to the railroad right-of-way should be restricted to ensure safe conditions. Pedestrian crossings over the railroad tracks should be considered at the Specific Plan stage.	Review at SP stage.	SJCCDD	SP and PC

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; **(includes Tentative Map approval or and Final Map approvals and other discretionary application approvals)**; C: Construction stage (prior to building permit issuance); O: Operational stage.

7.1 MITIGATION MONITORING PROGRAM
Transportation

Table 7.1 - *continued*

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.14-9(b) A sound wall along the north side of the Southern Pacific line bisecting the site should be provided to restrict access to the tracks from the adjacent residential areas. The proposed pedestrian/bicycle trail along Mountain House Creek should be grade-separated where it crosses the tracks to ensure pedestrian safety.	Review at SP stage.	SJCCDD	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ AIR QUALITY				
4.15-1 The project would increase regional emissions of criteria pollutants through new vehicle travel and area-source emissions associated with residential and industrial uses in excess of threshold levels established by San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD). These emissions would add to the regional emission burdens within the San Joaquin Valley air basin and the adjacent San Francisco Bay Area air basin, and delay eventual attainment of air quality standards for ozone and suspended particulate matter (PM-10).	4.15-1(a) At the time of the Specific Plan, land uses and densities should be oriented towards pedestrian/bicycle travel for local trips. The basic strategy should be to place residential uses within one-quarter to one-half mile from commercial uses, schools, and parks.	Review at SP stage.	SJCCDD	SP
	4.15-1(b) Park-and-ride and transit amenities should be provided within the project to promote and facilitate use of alternatives to the single occupancy vehicle for trips to and from the project site. This measure is identical to Mitigation Measure 4.14-1(d) in Section 4.14, Transportation.	Review at SP stage.	SJCCDD	SP
	4.15-1(c) A system of pedestrian/bicycle/electric vehicle paths should be established connecting residences to shopping, employment, and recreational uses to encourage non-auto travel for short trips. Such paths should be identified at the time of the Specific Plan.	Review at SP stage.	SJCCDD	SP

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage: (includes Tentative Map approval or Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

7.1 MITIGATION MONITORING PROGRAM
Air Quality

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.15-1(d) The project sponsor should establish a Transportation Management Organization (TMO) to develop and implement trip reduction programs within the project. The TMO should establish and implement a site-specific Travel Demand Management (TDM) plan, including ongoing funding and monitoring and inclusion of TDM elements in lease agreements. A performance standard of 1.5 passengers per vehicle occupancy during peak travel periods shall be the goal of TDM elements. The TMO would be responsible for preparing educational material to be distributed to new homeowners within the project regarding the need to reduce air pollution sources and information on commute and travel alternatives. This measure is similar to Mitigation Measure 4.14- 1(c) in Section 4.14, Transportation.	Review at SP stage and monitoring during occupancy.	SJCCDD	SP; O
	4.15-1(e) Telecommuting should be encouraged through policies, land use mixes, and zoning ordinances that provide incentives and minimize restrictions for offices in homes and satellite work centers within the project.	Review at General Plan and Development Title adoption.	SJCCDD	GP adoption
	4.15-1(f) The impact of residential fireplace emissions of PM-10 and carbon monoxide on air quality can be reduced by restricting the number of fireplaces to one per residence, installing natural gas fireplaces , or requiring residential use of EPA-certified wood stoves or fireplace inserts, which reduce PM-10 emissions 70 to 90 percent compared to conventional wood stoves or fireplaces. Low NO_x space and water heaters, in use in several areas of California, should be installed in residences. Electric lawnmowers and blowers should be provided with the sale of residential units, and an electrical outlet and a natural gas line should be provided to the backyard of each residence to provide an alternative to charcoal barbecues.	Review of building permits.	SJCBD	PC; C
	4.15-1(g) The project sponsor, through the TMO, should ensure an adequate level of transit service for the project residents and workers. This mitigation measure is identical to Mitigation Measure 4.14-1(e).	Review at SP stage and monitoring during occupancy.	SJCCDD	SP; C

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.15-1(h) The mixture of land uses within the project should attempt to locate mutually-supportive land uses in proximity to one another to reduce trip generation or vehicle miles travelled. Locating neighborhood commercial services, day care, schools, and playgrounds within short distances to residential uses would be an example of such mutually-supportive land uses. Providing commercial services such as banking, restaurants, or fitness centers in close proximity to employment-generating uses would be another appropriate land use mix.	Review at SP stage.	SJCCDD	SP
	4.15-1(i) The County should incorporate a requirement for an air quality mitigation fee as part of the Development Title. Such a fee could be imposed when new projects generating more than 200 trips per day are not able to reduce trip generation by at least 25 percent. This fee could be used for air quality improvements such as park and ride facilities, transit, and vehicle inspection.	Review at General Plan/Development Title adoption.	SJCCDD	GP adoption
	4.15-1(j) Industrial or commercial operations with equipment that causes or has a potential for air pollution or that controls such air pollution may need to apply for an Authority to Construct and Permit to Operate according to regulations of the San Joaquin Valley Unified Air Pollution Control District.	Review prior to construction	SJCCDD	As needed prior to construction.
4.15-2 The project would increase the potential for air quality and odor-related land-use conflicts.	4.15-2(a) Prior to adoption of the General Plan amendment, buffer zones between existing agricultural lands and residences should be provided. The size of the buffer zone should be determined by the type of agricultural activities involved, with a larger buffer required where the agricultural activities require frequent tilling, waste burning, or pesticide application. A minimum of 1,000 feet is recommended (see Alternative 5.5). The buffer zone could consist of a mixture of open space, compatible land uses (such as a water treatment plant, some commercial uses, some clean industrial uses), recreational uses, landscaped areas, streets, or other non-intensive uses.	Review at GPA stage.	SJCCDD	GPA

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage: (includes Tentative Map approval or and Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.15-2(b) Residential uses should be provided with minimum 500-foot buffer zones between industrial uses and the wastewater treatment plant. The buffer zone could consist of a mixture of open space, recreational uses, landscaped areas, streets, or other non-intensive uses. Such buffer zones should be identified prior to the approval of the proposed General Plan amendment.	Review at GPA stage.	SJCCDD	GPA
4.15-3 Construction activities would generate dust and particulate matter which could exceed the PM-10 threshold of significance by 0.96 ton per day.	<p>4.15-3 The severity of construction impacts can be reduced to a level that is less-than-significant through application of appropriate mitigation measures. To ensure that construction mitigation is implemented, final approval should not be given to any site development until the developer/contractor submits a satisfactory construction mitigation plan. This plan should specify the methods of control that would be used, demonstrate the availability of needed equipment and personnel, and identify a responsible individual who, if needed, could authorize generation and implementation of additional measures.</p> <p>The construction dust mitigation plan should, at a minimum, include the following recommendations or equivalent measure for areas of active construction:</p> <ul style="list-style-type: none"> • suspend earthmoving or other dust-producing activities during periods of high winds when dust control measures are ineffective in controlling visible dust plumes; • make available dust control equipment and staff as needed to control excessive amounts of dust from excavated or graded soil surface areas. The dust control measures should be in conformance with Air Pollution Control District regulations and may include, but are not limited to, soil stabilization or soil surface treatment. When water is used to treat the soil surface an appropriate dust palliative or suppressant should be added to the water before applications; 	Review at SP stage. Submittal of construction mitigation plan.	SJCCDD; SJCBD; SJVUAPCD	SP; PC

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	<ul style="list-style-type: none"> • water or cover stockpiles of debris, soil, sand, or other materials that can be blown by the wind; • sweep construction areas and adjacent streets of all mud and debris, since this material can be pulverized and later resuspended by vehicle traffic; • limit the speed of all construction vehicles to 15 miles per hour on unpaved roads while on site; • cover or wet down all materials transported by truck; • water all inactive portions of the site with an appropriate dust suppressant or cover or seed inactive areas. Completed areas of the site and long-term stockpiles of soil should be seeded within 30 days of completion of activity. 			

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage: (includes Tentative Map approval or and Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ NOISE				
4.16-1 Residential development, schools, and other noise-sensitive land uses on the project site would be exposed to excessive noise levels, especially in the area between Grant Line Road and I-205.	4.16-1(a) The siting of residential or other noise-sensitive land uses adjacent to Interstate 205 should be avoided. Future residences should be located outside the 65-L _{dn} freeway noise contour.	Review at GPA SP stage.	SJCCDD	GPA SP
	4.16-1(b) Locating noise-sensitive land uses as far as possible from major roadways is the preferable solution. When this is not feasible, or desirable, earth berms, or sound walls could be built between the noise source and the noise-impacted area. Typically, an earth berm provides 3 dB of additional noise attenuation over a sound wall of the same height. A sound wall at the top of an earth berm is more aesthetically pleasing than a sound wall of the same total height but, its performance to act as a noise barrier is inferior to an earth berm (Figure 4.16-3). Further noise level reductions to an L _{dn} of 60 dB could be achieved through proper site planning and building orientation, construction of earth berms or sound walls, or a combination of more than one of these methods. Site specific mitigation measures should be determined on a case-by-case basis.	Review at SP stage.	SJCCDD	SP
	4.16-1(c) Schools should not be sited in areas exposed to noise levels above an L _{dn} of 60 dB. The land use plan should be revised to relocate two proposed high schools and three elementary schools.	Review at SP stage.	SJCCDD	SP
	4.16-1(d) At the time of the Specific Plan, acoustical studies should be required for noise-sensitive land uses proposed to be located in areas exposed to noise levels above an L _{dn} of 60 dB. Appropriate mitigation measures should be recommended in these studies and implemented by the appropriate party to ensure that the L _{dn} of 60 dB is not exceeded.	Review at SP stage.	SJCCDD	SP

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.16-1(e) Noise studies for specific residential projects proposed in noise impacted areas (exposed to an L_{dn} above 60 dB) should address how noise levels in outdoor use areas, such as backyards, patios, decks, etc., could be maintained below an L_{dn} of 60 dB. Other noise-sensitive land uses, such as schools, hospitals, and parks should also require similar studies.	Review of acoustical studies.	SJCCDD	SP and PC
	4.16-1(f) Interior noise levels for housing proposed to be located in areas exposed to an L_{dn} above 60 dB should be maintained below an L_{dn} of 45 dB. Compliance with this recommended mitigation measure should be verified at the time of the Specific Plan.	Review of acoustical studies.	SJCCDD	SP and C
	4.16-1(g) Because of the potential for aircraft overflights, the results of a noise study should be included in the Specific Plan to determine whether changes in the land use plan and/or treatments to the noise sensitive structures would be required to minimize or eliminate noise impacts to project site occupants. Also, the County should consider requiring that potential new residents be notified of the presence of the airport and of the potential for aircraft overflights.	Review of acoustical studies	SJCCDD	SP, PC, and O

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage: (includes Tentative Map approval or and Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
4.16-2 Existing residences located adjacent to existing roads in and around the proposed Mountain House New Town would be significantly impacted by project-generated traffic.	<p>4.16-2 Outdoor use areas of existing residences that would be impacted (i.e., would experience an increase of 5 dB in the L_{dn}) by project-generated traffic noise should be protected from excessive noise. At the Specific Plan stage, the County should refine the traffic study and revise the acoustical analysis to identify potentially impacted residences (minimum noise level increases of 5 dB), and if feasible, offer mitigation measures to minimize the impacts.</p> <p>Mitigating impacts at individual residences could take the form of constructing sound walls along the roadways, soundproofing homes, or building barriers/fences around specific portions of yards to provide shielded outdoor spaces. Because of the nature of the development in the area, solutions would have to be tailored to each specific situation.</p>	Review at SP stage.	SJCCDD	SP
4.16-3 Proposed noise-sensitive land uses adjacent to agricultural lands, could be significantly impacted by agricultural machinery and equipment noise.	<p>4.16-3 Earth berms, sound walls, or other mitigation identified at the Specific Plan stage should be constructed where noise-sensitive land uses would abut agricultural fields. Alternatively, a buffer zone between proposed noise-sensitive land uses and agricultural lands could be provided prior to adoption of the General Plan Amendment. A 1,000-foot wide on-site buffer zone would reduce noise levels generated by agricultural machinery by approximately 20 dB.</p>	Review at SP stage.	SJCCDD	GPA; SP
4.16-4 Construction noise during the 17-year development period would be a significant noise impact.	<p>4.16-4(a) Noise-generating construction equipment, including truck traffic coming to and from the site for any purpose, should be limited to weekdays, between the hours of 8:00 AM and 5:00 PM if construction activity is within 500 feet of any existing residential development. Noise impacts during construction can be mitigated by controlling the hours of construction. This may be appropriate in some situations and should be considered on a case-by-case basis as construction proceeds in the new community.</p>	Verification of compliance.	SJCCDD	PC and C
	<p>4.16-4(b) All construction equipment powered by internal combustion engines should be properly muffled and maintained. The prudent selection of equipment, along with the use of proper mufflers, should limit construction-related noise generated by a particular piece of equipment to 85 dBA when measured at a distance of 50 feet from the piece of equipment operating at its noisiest mode.</p>	Verification of compliance.	SJCCDD	C

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
	4.16-4(c) All stationary noise-generating construction equipment, such as air compressors, should be located as far as possible from existing residences. Such equipment should be acoustically shielded where possible.	Verification of compliance.	SJCCDD	C
	4.16-4(d) Quiet construction equipment, particularly air compressors, should be selected whenever possible.	Verification of compliance.	SJCCDD	C

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW: San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage; (includes Tentative Map approval or Final Map approvals and other discretionary application approvals); C: Construction stage (prior to building permit issuance); O: Operational stage.

7.1 MITIGATION MONITORING PROGRAM
Cumulative Impact Mitigation Measures

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
■ GROWTH-INDUCING IMPACTS				
The project could result in unavoidable growth-inducing impacts due to the large number of surrounding agricultural parcels.	Buffer zones should be provided on the east and west sides of the project that have deed restrictions to prevent development. I-205 and Old River would minimize growth-inducing impacts for land to the north and south of the project site. The on-site water and wastewater plants should be sized to serve no more than the proposed project and could be more centrally-located to minimize growth inducement.	Review at SP stage	SJCCDD	SP
■ CUMULATIVE IMPACT MITIGATION MEASURES³				
Land Use and Agricultural Issues	San Joaquin County should consider imposing impact fees which can be used to purchase development rights or supports land trusts. Policies and regulations regarding such fees should be incorporated into the Revised Draft General Plan 2010. Counties within the Central Valley should expand areas zoned for agricultural use. The State Department of Conservation should include, with their Prime Farmlands Map, recommendations for preserving prime agricultural land. A regional task force should be formed to establish incentive mechanisms to retain agricultural land in the Central Valley.	Review at General Plan adoption stage and yearly review of multi-county recommendations.	SJCCDD, LAFCO	Yearly reporting to Planning Commission or Board of Supervisors
Public Services/Parks and Recreation	A regional recreational task force should be formed to develop funding mechanisms to expand and maintain regional recreational facilities. San Joaquin County, in conjunction with the cities in San Joaquin County, should develop a fee structure to finance regional parks. Current policies regarding regional parks should be reviewed and possibly revised.	Yearly review and once at general Plan adoption stage (expected in 1992).	SJC Parks and Recreation and SJCCDD	Yearly reporting
Public Services/Schools	School district officials should review development plans to ensure adequate school facilities are available when needed. Development plans calling for new school sites should be reviewed by school district officials to confirm size of facility, acreage for individuals school sites, and verification that the correct student generation rate was used to calculate the size and extent of new facilities.	As needed, review by school district officials.	SJCCDD and local school districts	Ongoing; as needed

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
Public Services/Fire Protection Service	The County's Draft Development Title proposes development impact fees to be charged for new developments to finance construction of fire protection facilities. Community Service Districts and Community Facilities Districts should be established for new communities to fund added fire protection service.	Review of Development Title adoption and during Specific Plans for new communities.	SJCCDD	Once at Development Title adoption and ongoing for new communities
Public Services/Police Protection Service	A Community Services District (CSD) should be formed to offset the financial burden of increased costs. In establishing a CSD, residents can choose the level of law enforcement based on assessment costs. Fees collected from the CSD should also be used to increase marine patrol services in the Delta during the summer months. Development fees similar to those assessed for fire protection service should be implemented for police protection service.	Review establishment of CSD prior to construction in Patrol District 8. Review Development Title.	SJCCDD	As needed prior to District 8 construction.
Public Services/Libraries	Development fees for new residential development should be assessed to help offset the costs of providing additional library facilities. Such fees should be included in the County's Development Title, expected to be adopted in 1992.	Review at Development Title adoption stage.	SJCCDD	Once at Development Title adoption stage.

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage (Tentative Map approval or Final/Map approval); C: Construction stage (prior to building permit issuance); O: Operational stage.

³ Refer to Section 6.1 regarding cumulative impacts.

7.1 MITIGATION MONITORING PROGRAM
Cumulative Impact Mitigation Measures

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
Public Utilities/Water Demand	In the San Joaquin County General Plan Update process, the policy implications of changing irrigation districts, which have historically served only agricultural water users, into multi-purpose water supply agencies should be addressed particularly for new town development in unincorporated areas. Analysis of the fiscal impact should be undertaken, especially regarding the potential pressure to equalize water rates which could affect preservation of farmland in San Joaquin County. Plumbing and building codes should be amended for Alameda, San Joaquin, and Contra Costa counties to require Best Management Practices for water conservation and wastewater reclamation. County policies for all three counties should be adopted to encourage maximum water conservation and reclamation. During the General Plan Update process, San Joaquin County should consider water supply on a regional, multi-county basis.	Review at General Plan adoption stage. Monitor, on yearly basis, status of codes outside of San Joaquin County.	SJCCDD	Yearly and at General Plan adoption stage.
Public Utilities/Wastewater Flows	When updating the San Joaquin County General Plan, San Joaquin County should support the Central Valley Regional Water Quality Control Board by adopting policies to minimize, to the extent feasible, land use changes that would generate significant increases in wastewater discharges into Old River and other surface waters that drain into the Sacramento-San Joaquin Delta. The proposed new communities in the County should identify adequate acreage for sludge treatment and/or disposal.	Review at General Plan adoption stage.	SJCCDD	Once at General Plan adoption stage.
Public Utilities/Potential To Create a Public Health Hazard	San Joaquin County should cooperate with the California Department of Toxic Substance Control (DTSC) and Central Valley RWQCB in implementing reclamation projects, including agricultural and landscape irrigation, and groundwater recharge with reclaimed water, so that the public health of San Joaquin County residents is protected.	Yearly review of status.	SJCCDD and SJCEHD	Yearly
Public Utilities/Storm Drainage	New developments should be designed to minimize and control the discharge of pollutants associated with residential areas, with new construction, with industrial areas, and with transportation. Potential future regulatory requirements on stormwater discharges for small communities should be considered in the planning stages. Stormwater discharges from construction and industrial sites should be permitted in accordance with State and Federal regulations.	Ongoing review of individual projects and during Specific Plan process.	SJCCDD and SJCDPW	Ongoing

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
Public Utilities/Gas and Electricity	Energy conservation and alternative energy use measures recommended in the DEIR on the San Joaquin County Draft General Plan (San Joaquin County, 1991d) should be implemented in conjunction with those measures recommended for the proposed project.			
Public Utilities/Telephone	None necessary.	--	--	--
Cultural Resources	Test excavation, monitoring (such as recommended for the project), and/or ethnographic or historical studies would be appropriate to mitigate cumulative impacts to cultural resources.	Ongoing review for individual projects	SJCCDD	Ongoing
Geology, Soils, and Seismicity	Mitigation measures recommended for the proposed project in Section 4.6, should be implemented for similar impacts associated with cumulative development.	Ongoing review for individual projects	SJCCDD	Ongoing
Hydrology and Water Quality	Levee stability impacts could be mitigated by appropriate design and maintenance of the south Delta levees as recommended by the DWR's Delta Flood Hazard Mitigation Plan. County policies and regulations, including Section 9-1135 of the County Development Title, which require appropriate control of storm drainage in new developments should be applied to all future projects. The potential impact of increased boating could be mitigated to an insignificant level by establishing and enforcing appropriate boat speed limits, which reduce wake production.	Annual review of levee status. Review of individual projects. Annual review of marine patrol activities re speeding enforcement.	SJCCDD and County Sheriff's Department	Ongoing and yearly reports.
Visual Quality	Mitigation measures to reduce the associated visual impacts of growth along I-580 and I-205 would be similar to those recommended for the proposed project which include: extensive setbacks of development from the freeway; landscaping with evergreen trees to screen development from view; and, continuation of agricultural operations adjacent to the freeway to maintain the existing rural ambience. Permanently-protected open space at the edges of new development would also mitigate potential visual quality impacts.	Review of individual developments.	SJCCDD	Ongoing

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW: San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage (Tentative Map approval or Final/Map approval); C: Construction stage (prior to building permit issuance); O: Operational stage.

³ Refer to Section 6.1 regarding cumulative impacts.

7.1 MITIGATION MONITORING PROGRAM
Cumulative Impact Mitigation Measures

Table 7.1 - continued

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
Fiscal Impacts	The County should ensure that, as a condition of receipt of development entitlement, all unincorporated new communities have the monitoring mechanisms and special districts in place that would prevent each new town from incurring a net General Fund deficit. These monitoring mechanisms and special districts should be identified and approved by the County at the Specific Plan stage of the development approval process.	Review at Specific Plan stage.	SJCCDD	Specific Plan for all new communities.
Financial Impacts	Significance of impacts undetermined.	--	--	--
Population, Housing, and Employment	For cumulative growth, especially for the proposed new communities in unincorporated areas, each phase of development should be approved after verification that a ratio of 1.0 employed residents per job can be achieved. Projects should only be approved at specific phases.	Review of Specific Plans for new communities.	SJCCDD	Specific Plan for all new communities.
Public Health and Safety	San Joaquin County should develop regulations requiring that preliminary environmental assessments should be performed at all sites for proposed development. If the preliminary assessment identifies past or present sources of contamination, remediation of the site should be required as a condition for development. The California Environmental Protection Agency should develop, in conjunction with other Federal, State, and local agencies, a program to evaluate the potential impacts of residual agricultural chemicals on people living in areas converted from agricultural to residential land uses. The San Joaquin County Public Health Department (SJCPHD) should establish a program for private well water quality testing. The residents of properties adjacent to wells identified as contaminated should be notified by the SJCPHD.	Review at Development Title adoption stage. annual review of status of program re agricultural chemicals. Review of program for well testing no later than 1993.	SJCCDD, SJCPHD	Once at Development Title stage; annual report re agricultural chemicals; once in 1993 re well testing program.
Biological Resources	The County should develop Countywide Habitat Conservation Plans for Swainson's hawk and the kit fox. Stringent zoning controls should be imposed in areas of biological significance.	Review of status of plans yearly until completion	SJCCDD	Yearly
Transportation	Mitigation measures identified for the proposed project in Section 4.14 also address cumulative traffic increases.	See monitoring for Section 4.14.	--	--
Air Quality	Similar mitigation measures prepared for the project (i.e., land use mixes to promote non-vehicular travel) should be implemented for all cumulative growth. The County should adhere to the mitigation measures identified in the recently Adopted Air Quality Attainment Plan.	Review of individual projects. Review at Development Title adoption stage (expected in 1992).	SJCCDD and SJVUAPCD	Ongoing and once at Development Title stage.

Impact	Mitigation Measure	Monitoring Requirements	Person/ Agency Responsible ¹	Timing or Frequency of Monitoring ²
Noise	The County should use noise policies contained in the Noise Element of the General Plan to evaluate potential noise impacts associated with proposed projects. Projects to be located in areas showing large noise increases (Figure 6.2) should require noise studies to quantify the project contribution to the future noise environment. If the noise impacts associated with a specific project are found to be significant, mitigation measures should be proposed to reduce the impact.	Review of individual projects.	SJCCDD	Ongoing

¹ SJCCDD: San Joaquin County Community Development Department; SJCBD: San Joaquin County Building Division; SJCDPW San Joaquin County Department of Public Works; USACE: U.S. Army Corps of Engineers; SJCFCE: San Joaquin County Flood Control Engineer; CSD: Community Services District (of project); RWQCB: Regional Water Quality Control Board; CDFG: California Department of Fish and Game; SJCEHD: San Joaquin County Environmental Health Department; DHS: California Department of Health Services; LAFCO: Local Agency Formation Commission. Those responsible would maintain monitoring records and verify compliance with mitigation measure.

² GPA: General Plan Amendment stage; SP: Specific Plan stage; PC: Pre-construction stage (Tentative Map approval or Final/Map approval); C: Construction stage (prior to building permit issuance); O: Operational stage.

³ Refer to Section 6.1 regarding cumulative impacts.

8.0 REFERENCES AND PERSONS CONSULTED

8.0 REFERENCE AND PERSONS CONSULTED

Alameda County, 1990, Zoning (Title 8) Code.

Alameda County Congestion Management Agency, Draft Congestion Management Program, June 27, 1991

Alameda County Congestion Management Agency, Draft Congestion Management Program, June 27, 1991.

American Farmland Trust, 1989, Risks, Challenges and Opportunities - Agriculture, Resources and Growth in a Changing Central Valley, San Francisco, California.

American Farmland Trust, 1989, *Risks, Challenges and Opportunities — Agriculture, Resources and Growth in a Changing Central Valley*, San Francisco, California.

American Farmland Trust, 1990, Risks, Challenges and Opportunities, Agricultural Resources and Growth in a Changing Central Valley, 20 March.

AMTRAK, 1991, information officer, personal communication with Howard Roll, 31 August.

AMTRAK, 1991, information officer, personal communication with Howard Roll, DKS Associates, 31 August.

Anderson, L. W., M.H. Anders, and D.A. Osteraa, 1982, Late Quaternary Faulting and Seismic Hazard Potential, Eastern Diablo Range, California, In Proceedings Conference on Earthquake Hazards in the Eastern San Francisco Bay Area, California Division of Mines and Geology, Special Publication 62:197-206.

Anderson, L.W., R. LaForge, and M.H. Anders, 1982, Seismotectonic Study of the San Luis Area, Eastern Diablo Range, California, U.S. Bureau of Reclamation Seismotectonic Report 82-2.

Archeo-Tec, 1989, Cultural Resources Evaluation of the Proposed Mountain House Planned Community, Alameda and San Joaquin Counties, California.

_____, 1990, Cultural Resources Evaluation of the Proposed Mountain House Planned Community, San Joaquin County, California, prepared for EIP Associates, San Francisco.

Atwater, B.F., 1982, Geologic Maps of the Sacramento-San Joaquin Delta, California, U.S. Geological Survey Miscellaneous Field Studies Map MF-1401.

Baker and Shoup, 1991, Technical Report, Cultural Resources Investigations of the Proposed Mountain House New Town Project, San Joaquin County, California.

Bancroft Scraps, 1868, Set W, California Counties, on file, Bancroft Library, University of California.

BART Express, July 1990 route schedule.

Bartow, J.A., 1985, Map and Cross Sections Showing Tertiary Stratigraphy and Structure of the Northern San Joaquin Valley, California. U.S. Geological Survey Miscellaneous Field Studies Map MF-1761.

BASELINE Environmental Consultants, 1990, Draft EIR on the San Joaquin County Comprehensive Planning Program (Draft), June.

Bay Area Air Quality Management District, 1985, Air Quality and Urban Development-Guidelines.

- Bechard, M., 1982, Effect of Vegetative Cover on Foraging Site Selection by Swainson's Hawk. *Condor* 84: 153-159.
- Beck, Warren A. and Ynez D. Haase, 1974, *Historical Atlas of California*, University of Oklahoma Press, Norman.
- Belden, Westcot, 1989, Water, Quality of Agricultural Drainage Discharging to the San Joaquin River and Delta From the Western Portion of San Joaquin County, California, April 1986 to May 1988, California Regional Water Quality Control Board, Central Valley Region, July.
- Bennyhoff, James A., 1977, *Ethnogeography of the Plains Miwok*, Center for Archaeological Research at Davis Publication (5), Davis.
- Bechard, M., 1982, Effect of Vegetative Cover on Foraging Site Selection by Swainson's Hawk. *Condor* 84: 153-159.
- Bernakis, Tony, 1991, Director of Facilities Development, Tracy Public School District, September.
- Bernakis, Tony, 1991, Director of Facilities Development, Tracy Public School District, personal community with Richard Anderson, Economic and Planning Systems, September.
- Bernakis, Tony, 1991, Director of Facilities Development, Tracy Public Schools, personal communication with Carolyn Mills, Mills Associates, 28 March and 22 April.
- Berrett, R.H., 1983, Smoked Aluminum Track Plates for Determining Furbearer Distribution and Relative Abundance. *California Department of Fish and Game Bulletin* 69(3):188-190.
- Bianchi/Burick, Judith, 1991, personal communication with Samuel McGinnis, 14 May.
- Bloom, Peter H., 1980, The Status of the Swainson's Hawk in California, 1979. California Department of Fish and Game and the Bureau of Land Management, Sacramento, California.
- Boldridge, Bill, 1991, Loop Technology Planning Engineer, Pacific Bell, personal communication with Lydia Huang, Baseline Environmental Consulting, 12 April.
- Bolt, B.A., 1985, Expected Ground Motions at Proposed Sites of the Superconducting Super Collider (SSC) in California, unpublished report submitted to the California SSC Committee.
- Bolton, Herbert E., 1930, *Anza's California Expeditions*. University of California Press, Berkeley.**
- Bowman, J.N., 1958, Index of the Spanish-Mexican Private Land Grant Records and Cases of California, on file, Bancroft Library, University of California, Berkeley.
- Boys, Dwayne, 1991, Owner, Trinkle and Boys Agricultural Flying Service, personal communication with Carolyn Mills, Mills Associates, 25 April.
- Branson, Gary, 1991, New Business Representative, Pacific Gas and Electric Company, personal communication with Lydia Huang, Baseline Environmental Consulting, 24 April.

8.0 REFERENCES AND PERSONS CONSULTED

Brown, Dr. Kirby, 1991, San Joaquin County Agricultural Commissioners Office, personal communication with Carolyn Mills of Mills Associates, 20 November.

- Burger, Ken, 1991, Water Quality Manager, East Bay Regional Park District, personal communication with Lydia Huang, Baseline Environmental Consulting, 16 April.
- Burnett Peter, 1991, San Joaquin County Sheriff's Department, personal communication with Carolyn Mills, Mills Associates, 27 February.
- Caldwell, Flores, Winters, Inc., 1991, Master Development and School Facilities Needs Analysis for Lammersville Elementary School District.
- Caldwell, Flores, Winters, Inc., 1991, Master Development and School Facilities Needs Analysis for Lammersville Elementary School District.
- California Air Resources Board, 1974, Climate of the San Joaquin Valley Air Basin.
- California Air Resources Board, 1986-1990, California Air Quality Data, Annual Summary, Vols. XVII-XXI.
- California Air Resources Board, 1989, Area Designations for State and National Ambient Air Quality Standards.
- California Department of Conservation, 1984, Advisory Guidelines for the Farmland Mapping and Monitoring Program, April.
- _____, 1991, Office of Land Conservation, San Joaquin County Important Farmland Map (Draft), March.
- California Department of Education, 1989, School Site Selection and Approval Guide, prepared by the School Facilities Planning Division, Sacramento, California.
- California Department of Finance, 1991, Report E-5 Preliminary, May.
- California Department of Finance, Demographic Research Unit, 1989, Report E-5—San Joaquin County Population and Housing Estimates, 25 April.
- California Department of Fish and Game, 1990, 1989 Annual Report on the Status of California's State-Listed Threatened and Endangered Plants and Animals. The Resources Agency, Sacramento, California.
- California Department of Fish and Game, 1990, *Mitigation Guidelines for Swainson' Hawk (Buteo swainsoni) in the Central Valley of California*, Region 2 Office, Rancho Cordova, CA.
- California Department of Health Services, 1990, Section 1.0 of Initial Statement of Reasons for Proposed Changes in the Regulations of the Department of Health Services, May.
- California Department of Transportation, Division of Traffic Operations, August 1989, 1988 Annual Average Daily Truck Traffic on the California State Highway System.
- California Department of Transportation, Division of Traffic Operations, 1990, machine count totals from traffic counts conducted on I-580 during December and April.

California Department of Transportation, Division of Traffic Operations, 1981 through 1991, Traffic Volumes on the California State Highway System.

California Department of Transportation, Division of Traffic Operations, 1991, 1990 Traffic Volumes on the California State Highway System.

California Department of Transportation, Division of Traffic Operations, 1990, machine count totals from traffic counts conducted on I-580 during December and April.

California Department of Transportation, Division of Traffic Operations, 1989, 1988 Annual Average Daily Truck Traffic on the California State Highway System, August.

California Department of Transportation, Division of Traffic Operations, 1991, 1990 Traffic Volumes on the California State Highway System.

California Department of Transportation, Division of Traffic Operations, 1981 through 1991, Traffic Volumes on the California State Highway System.

California Department of Water Resources, 1967, San Joaquin County Ground-Water Investigation, California Department of Water Resources Bulletin 146.

_____, 1987, California Water: Looking to the Future, Department of Water Resources Bulletin 169-87.

California Employment Development Department, Employment Data and Research Division, 1989, Report 400R-N, 1 March.

California Energy Commission, 1979, Solar Office, Solar Access: A Local Responsibility, A Supplement to 1978 Legislation.

_____, 1990, Energy Efficiency, Committee Report, September.

California Noise Insulation Standards, State Building Code (Part 2, Title 24, CCR).

California State Board of Equalization, 1990, "Taxable Sales in California (Sales and Use Tax)," First through Fourth Quarters.

California State Board of Equalization, 1990, Taxable Sales in California (Sales and Use Tax), (First through Fourth Quarters).

Capener, Paul J., 1990, Acting Project Superintendent, United States Department of the Interior, letter to Kitty Walker, Senior Planner, San Joaquin County Community Development Department, 27 August.

Cardinet, George (Heritage Trails, Concord, California), 1992, Personal communication by telephone with Suzanne Baker of Archaeological/Historical Consultants, 4 February.

Carnegie Mellon University, 1989, Electric and Magnetic Fields from 60 Hertz Electric Power: What Do We Know About Possible Risks?, Department of Engineering and Public Policy, Pittsburgh, PA.

8.0 REFERENCES AND PERSONS CONSULTED

Carpenter, David, 1991, Lawrence Livermore Laboratory Geologist, personal communication with Kevin O'Dea, Baseline Environmental Consulting, 15 March.

Carpenter, Rod, 1992, Sergeant, Contra Costa Sheriff's Department, Marine Services Bureau, personal communication with Carolyn Mills of Mills Associates, 13 February.

Carvalho, John J., 1989, President, Byron-Bethany Irrigation District, letter to William W. Johnson, Trimark Communities, Inc., 18 August.

Century West Engineering; R.W. Siegfried and Associates; and SWA Group, 1991, Mountain House New Community, Proposed Urban Area, 2010 General Plan, Drainage and Flood Protection.

_____, R.W. Siegfried and Associates, SWA Group, 1991, Mountain House New Community, Proposed Urban Area, 2010 General Plan, Wastewater Collection, Treatment and Disposal.

CH2M Hill, 1987, East Bay Dischargers Authority Sludge Management Study.

_____, 1990, Water Treatment Technology Seminar, October.

Clark, William B., 1955, Mines and Mineral Resources of San Joaquin County, California Journal of Mines and Geology, 51(1):21-95.

Compton, H.T., 1895, Map of the County of San Joaquin, on file, Bancroft Library, University of California, Berkeley.

Congestion Management Advisory Group (ConMAG) and San Joaquin County Council of Governments, 1991, Draft Congestion Management Program for San Joaquin County, 24 September 1991.

Conner, Robert, 1991, Trainmaster, Southern Pacific Company, personal communication with Tassos Papadimos, Illingworth & Rodkin, Inc., 8 February.

Connolly, Mark, 1991, Attorney, San Joaquin County Open Space Land Trust, personal communication with Carolyn Mills, Mills Associates, 2 December.

Connor, Robert, 1991, Trainmaster, Southern Pacific Company, personal communication with Tassos Papadimos, Illingworth & Rodkin, Inc., 8 February.

Contra Costa County, 1989, Zoning Code.

Cooksey, Doff, 1991, Owner, Aerial Control, telephone conversation with Carolyn Mills, Mills Associates, 8 November.

Corbridge, D.R., 1991a, Planning Engineer, Pacific Bell, letter to Lydia Huang, Baseline Environmental Consulting, 26 February.

_____, 1991b, Planning Engineer, Pacific Bell, letter to Lydia Huang, Baseline Environmental Consulting, 12 April.

Cotulla, Laurie, 1991, Program Manager, San Joaquin County Environmental Health Division, personal communication with Geneva Randall, Baseline Environmental Consulting, 22 February.

County Connection, 1990 route schedules.

County of San Joaquin, General Plan, Noise element adopted March 1991.

- Craighead, J. and F. Craighead, 1956, Hawks, Owls, and Wildlife. Stackpole Company, Harrisburg, Pennsylvania.
- Daniels, Noreen, 1991, Facilities Planning, Livermore Valley Joint Unified School District, telephone conversation with Carolyn Mills of Mills Associates, 17 November.
- Dean, Thomas G., Yep, Ray, and Hunt, Cynthia, 1990, Comprehensive Sludge Management Succeeds in Santa Clara County, California, June.
- de Silva, Lu, 1992, Senior Planning Analyst, Pacific Gas and Electric Company, Land Planning and Acquisition, Personal communication with Irene Kan, BASELINE, 7 February.**
- de Silva, Lu, 1992, Senior Planning Analyst, Pacific Gas and Electric Company, Land Planning and Acquisition, Personal communication with Lydia Huang, BASELINE, 12 February.**
- Detrich, P.J., 1986, Status of the Swainson's Hawk (*Buteo swainsoni*) in the Upper Sacramento Valley. California State University, Chico.
- Diamond, Edward, 1991a, Associate Engineer, California Department of Water Resources, personal communication with Lydia Huang, Baseline Environmental Consulting, 12 March.
- _____, 1991b, Associate Engineer, California Department of Water Resources, letter and water quality diskette to Lydia Huang, Baseline Environmental Consulting, 22 February.
- Dibble, T. W., Jr., 1980, Geologic Map of the Midway Quadrangle, U.S. Geological Survey Open File Report 80-535.
- Dickson, Gary, 1991, Senior Regional Planner, San Joaquin County Council of Governments, written correspondence to Kitty Walker, Senior Planner, San Joaquin County Planning Department, 15 November.
- Dixon, John, 1991, Flight Operations Inspector, Federal Aviation Administration, telephone conversation with Carolyn Mills, Mills Associates, 12 November.
- DKS Associates, 1988, I-580/I-205 Corridor Study Origin-Destination Survey Final Report, prepared for Metropolitan Transportation Commission, December.
- DKS Associates, 1991, "Traffic Study for the Proposed Mountain House Community," 1991.
- DKS Associates, 1991, field observations, February and September.
- DKS Associates, 1992, San Joaquin County Travel Demand Model Development.**
- Drake, Robert H., 1992, Senior Planner, Contra Costa County Airport Land Use Commission, personal communication with Rich Illingworth of Illingworth & Rodkin, 13 February.**
- Dumas, Tom, 1991, Planning Manager, Stockton Metropolitan Area Transit District, personal communication with Howard Roll, DKS Associates, 28 January.

8.0 REFERENCES AND PERSONS CONSULTED

Dumas, Tom, 1991, Planning Manager, Stockton Metropolitan Area Transit District, personal communication with Howard Roll, 28 January.

Duran, Nick, 1991, Senior Agricultural Inspector, San Joaquin County Agricultural Commissioners Office, personal communication with Geneva Randall, Baseline Environmental Consulting, 22 February.

Earth Systems Consultants, 1990, Geotechnical Feasibility Study, Mountain House Development, San Joaquin County, California.

Earth Systems Environmental, Inc., 1990, Preliminary Environmental Site Assessment, Proposed Mountain House Community, Approximately 3,800 Acres, San Joaquin County, California, 31 October.

Eaton, J., 1986, Tectonic Environment of the 1892 Vacaville/Winters Earthquake, and the Potential for Large Earthquakes along the Western Edge of the Sacramento Valley, California, U.S. Geological Survey Open File Report 86-370.

Economic and Planning Systems, Inc., 1989, Facing the Future: The Fiscal Implications of Urban Growth in San Joaquin County, June.

Economic and Planning Systems, Inc., 1989, The Market for Residential Retail and Golf Course Uses on the San Francisco Public Utilities Commission Site in Pleasanton, prepared for the San Francisco Public Utilities Commission, February.

_____, 1990, Growth Inducing Impacts Analysis of Tri-Valley Wastewater Authority Export Capacity Expansion, prepared for Tri-Valley Wastewater Authority, April.

_____, 1991, Growth Forecast for San Joaquin County (Staff Review Draft), prepared for San Joaquin County Community Development Department, April.

Economic and Planning Systems, Inc., 1991, Growth Forecast for San Joaquin County (Draft), June.

Edwards, Ann and Chuck, 1991, personal communication with Samuel McGinnis, 6 July.

Elsworth, W.L., J.A. Olson, L.N. Shijo, and S.M. Marks, 1982, Seismicity and Active Faults in the Eastern San Francisco Bay Region, Proceedings of Conference on Earthquake Hazards in Eastern San Francisco Bay Area, California Division of Mines and Geology, Special Public 62:83-92.

EMCON Associates, 1988, San Joaquin County Hazardous Waste Management Plan, November.

Environmental Science Associates, 1990, North Livermore Planning Area, Environmental Evaluation, February.

Estep, J.A., 1989, Biology, Movements, and Habitat Relationships of the Swainson's Hawk in the Central Valley of California, 1986-87. California Department of Fish and Game, Wildlife Management Division, Sacramento, California.

Factor, William, 1991, Senior Planner, San Joaquin County Community Development Department, personal communication with Richard Anderson, Economic and Planning Systems, Inc., 18 April.

Fair, Geyer, and Okun, 1968, Water Purification and Water Treatment and Disposal.

Federal Emergency Management Agency (FEMA), 1988, Flood Insurance Rate Map, Community Panel Number 060299 0 545 B.

Ferris, Muriel, 1991, MP-780, Bureau of Reclamation, hard copies and diskette to Lydia Huang, Baseline Environmental Consulting, 26 February.

- Finch, M, 1985, Earthquake Damage in the Sacramento-San Joaquin, Sacramento and San Joaquin Counties. California Geology, February.
- Foreman, Richard, 1991, Flight Standards Division, Federal Aviation Administration, telephone conversation with Carolyn Mills, Mills Associates, 12 November.
- Freggiarro, Diane, 1991, Senior Administrative Analyst, Stockton-San Joaquin County Library, personal communication with Carolyn Mills, Mills Associates, 26 February.
- Frudden, Joanne, 1991, personal communication with Samuel McGinnis, 6 July.
- Garrison, Bob, 1991, BART Forward Planning, personal communication with H. Roll, DKS Associates, 25 November.
- Gearhart, Robert, 1991, Professor of Engineering, Humboldt State University, Arcata, personal communication with Lydia Huang, Baseline Environmental Consulting, 23 April.
- Getz, Virginia, 1991, Wildlife Biologist, Jones & Stokes Associates, Inc., personal communication with Dr. Samuel McGinnis, Mills Associates, 26 November.
- Gilbert, Frank T., 1879, History of San Joaquin County, California, Thompson and West, Oakland.
- Global Cities Project, The, 1990, Water Conservation and Reclamation, Building Suitable Communities, An Environmental Guide for Local Government, December.
- Goodyear, W.A., 1877, The Coal Mines of the Western Coast of the United States, A.L. Bancroft and Company, San Francisco.
- Greenfelder, R.W., 1974, Maximum Credible Rock Acceleration from Earthquakes in California, California Division of Mines and Geology, Map Sheet 23.
- Gregg, John S., 1992, Program Manager, Los Vaqueros, sponsored by Contra Costa Water District, letter to Kitty Walker, Senior Planner, San Joaquin County Community Development Department, 29 January.**
- Gross, Ronald Jr., 1991, Vice President, Land Development, Trimark Communities, personal communication with Carolyn Mills and Claudia Delman, Mills Associates, 18 and 19 April.
- Gudde, Erwin G., 1969, California Place Names, University of California Press, Berkeley.
- Hand, Barry, 1991, City of Tracy, meeting with Amy Skewes-Cox of BASELINE, and Carolyn Mills of Mills Associates, 21 February.**
- Hansen, Del, 1991, Owner, Del's Boat Harbor, personal communication with Carolyn Mills, Mills Associates, 8 April.
- Hanson, Jeff, 1991, Aviation Safety Inspector, FAA, telephone conversation with Carolyn Mills, Mills Associates, 12 November.

8.0 REFERENCES AND PERSONS CONSULTED

Hart, E.W., 1990, Fault Rupture Hazard Zones in California, Alquist-Priolo Special Studies Zones Act of 1972 with Index to Special Studies Zones Maps, California Department of Conservation, Division of Mines and Geology, Special Publication 42.

Hee, Mervin, 1991, California Department of Fish and Game, personal communication with Lydia Huang, Baseline Environmental Consulting, 8 March.

- Hekimian Van Dorpe Associates, 1986, San Joaquin County Solid Waste Management Plan.
- Hillman, Raymond, W. and Leonard A. Covello, 1985, Cities and Towns of San Joaquin County Since 1847, Panorama West Books, Fresno.
- Hooper, Chris, 1991, EMF Consultant with Enertech Consultants, personal communication with Irene Kan, Baseline Environmental Consulting, 23 April.
- Hoover, Mildred B, Hero E. Rensch and Ethel G. Rensch, 1966, Historic Spots in California. 3rd Ed., Stanford University Press, Stanford.
- Horne, Alex, 1991, Professor of Sanitary Engineering, University of California at Berkeley, personal communication with Lydia Huang, Baseline Environmental Consulting, 23 April.
- Houston, R.R., 1914, Secretary, Byron-Bethany Irrigation Company, Affidavit of Posting of Notice of Appropriation of Water, 23 May.
- Huffman, Ann, 1991, Huffman and Associates, personal communication with Samuel McGinnis, 14 June.
- Hurley, Dale, 1991, personal communication with Samuel McGinnis, 14 May.
- Ikeda, Dennis, 1992, Caltrans District 10, Traffic Operations Branch, personal communication with Mike Kennedy, DKS Associates, 13 February.**
- Iwonima, Tom, 1991, San Joaquin County Flood Control and Water Conservation District Engineer, personal communication with Kevin O'Dea, Baseline Environmental Consulting, 20 February.
- James Montgomery Consulting Engineers, Inc., 1983, East Bay Municipal Utilities District, Contra Costa Water District, Water Quality Study - Volume 2, Water Quality and Cost Data, October.
- Jensen, Mary, 1991, Assistant Agricultural Commissioner, San Joaquin County Department of Agriculture, personal communication with Carolyn Mills, Mills Associates, 22, 23, and 24 March.
- Joint Publications Office of State of California, 1990, Guide to Cortese-Knox Local Government Reorganization Act of 1985.
- Jones & Stokes, Inc., 1990, *Habitat Conservation Plan for the Swainson's Hawk in San Joaquin County*, Community Development Department, Stockton, CA.
- Jones and Stokes Associates, Inc., 1991, The Impacts of Farmland Conversion in California, 24 January.
- Karam, Gabe, 1991, San Joaquin County Department of Public Works, Solid Waste Division, personal communication with Carolyn Mills, Mills Associates, 29 March.
- Kaufman, Fred, 1991, Program Manager, San Joaquin County Environmental Health Division, memorandum to Lydia Huang, Baseline Environmental Consulting, 4 March.
- _____, 1991, San Joaquin County Environmental Health Division Program Manager, memorandum to Lydia Huang, Baseline Environmental Consulting, 4 March.

- Korve Engineering Inc., 1990, vehicle classification counts conducted on I-205 at the Patterson Pass interchange, 3 and 4 January.
- Kleinfelder and Associates, 1989, Preliminary Comments Regarding Initial Test Borings, Marine Area, Mountain House Project, unpublished report.
- Korve Engineering, Inc., 1991, Mountain House New Community Proposed Urban Area 2010 General Plan, Circulation, 22 January.
- Kroeber, A.L., 1976, Handbook of the Indians of California, Dover Publications, Inc., New York.
- Kroll, Cynthia A., and Morris, Elizabeth W., 1988, Economic Conditions and Forces of Change in San Joaquin County, Institute of Business and Economic Research, University of California, Berkeley.
- Kwong, David, 1991, Air Quality Planner, San Joaquin Unit of the San Joaquin Valley Unified Air Pollution Control District, personal communication with Donald Ballanti, 1 October.
- Kwong, David, 1991, Air Quality Planner, San Joaquin Unit of the San Joaquin Valley Unified Air Pollution Control District, personal communication with Donald Ballanti, 1 October.
- Landers, Bobbie, 1991, personal communication with Samuel McGinnis, 6 July.
- Lang, Al, 1991, Water Treatment Plant Superintendent, Contra Costa Water District, personal communication with Robert Kemmerle, CH2M Hill, 5 April.
- Lawson *et al.*, California Earthquake of April 18, 1906, Carnegie Institution of Washington, 1908.
- LeBlanc, Gene, 1991, Fire Chief, Tracy Rural County Fire Protection District, personal communication with Claudia Delman, Mills Associates, 2 and 16 March.
- Lettis, W.R., 1982, Late Cenozoic Stratigraphy and Structure of the Western Margin of the Central San Joaquin Valley, California, U.S. Geological Survey Open File Report 82-526.
- Logan, S.H., 1990, Global Warming and the Sacramento-San Joaquin Delta. California Agriculture, 44(3):16-18.
- Lopez, Manuel, 1990, Deputy Director, San Joaquin County Department of Public Works, memorandum to New Communities Project Engineers, 20 December.
- MacDonald, Alex, 1991, District Engineer, Regional Water Resources Control Board - Central Valley District, personal communication with Robert Kemmerle, CH2M Hill, 12 April.
- Mallette, R.D., and G.I. Gould, 1978, Raptors of California. California Department of Fish and Game, Sacramento, California. Pamphlet.
- Market Directions, 1990, Preliminary Research Findings, Tracy Hills, 16 November.

- Maulchin, L. and A.L. Jones, in press, Peak Acceleration from Maximum Credible Earthquakes in California, California Department of Conservation, Division of Mines and Geology.
- McCarty Company, The, 1990, letter report to EIP Associates, 14 December.
- McCloskey, Richard, 1991, Transportation Officer, Southern Pacific Transportation Company, correspondence to DKS Associates, 6 September.
- McElyea, Richard J., Anderson, Austin G., and Krekorian, Gene P., 1991, Golf's Real Estate Value, Urban Land, February.
- Meissner, Mark, 1991, U.S. Department of Agriculture, Soil Conservation Service, Soil Scientist, letter to Sandi Potter, Baseline Environmental Consulting, 16 April.
- Metcalf and Eddy, 1979, Wastewater Engineering: Treatment, Disposal, Reuse, Second Edition.
- Metropolitan Transportation Commission, 1988, Regional Transportation Plan for the San Francisco Bay Area, October.
- Metropolitan Transportation Commission, Draft Regional Transportation Plan for the San Francisco Bay Area, April 1991.
- Metropolitan Transportation Commission, October 1988, Regional Transportation Plan for the San Francisco Bay Area.
- Miller, James, 1991, San Joaquin County Environmental Health Supervisor, personal communication with Geneva Randall, Baseline Environmental Consulting, 22 February.
- Mills Associates, 1989, FEIR General Plan Amendment, Zone Reclassification and Major Subdivision for the Crossroads Industrial Park, September.
- _____, 1990, FEIR General Plan Amendment and Zone Reclassification for the Gateway Business Park, May.
- Morrell, S.H., 1972, Life History of the San Joaquin Fox. California Department of Fish and Game, Sacramento, California.
- Morrell, S.H., 1975, San Joaquin kit fox distribution and abundance in 1975. Administrative Report. No. 75-3, P-R. Project W-54-R-7-1, California Department of Fish and Game, Sacramento, California.
- Mosier, Dan L., 1979, California Coal Towns, Coaling Stations and Landings, Mines Road Books, San Francisco.
- Mullen, David, 1990, the Biological Resources section of the Mountain House New Town - Expanded Area Supplement: General Plan Amendment Application, Williamson Act Contract Cancellation Application, San Joaquin County, Stockton, California; 1991, personal communication with Samuel McGinnis, 13 June.
- Murie, O.A., 1965, A Field Guide to Animal Tracks. Houghton Mifflin Co., Boston, Massachusetts.

Myers, Stephanie, 1991, Wildlife Biologist, Jones and Stokes Associates, personal communication with Samuel McGinnis, Ph.D., of Mills Associates, 26 November.

National Park Service, not dated, Status of Project, the De Anza Trail.

Nilsen, T.H., 1975, Preliminary Photointerpretation Map of Landslide and Other Surficial Deposits of Part of the Bethany 7½ Quadrangle, Alameda and Contra Costa Counties, California, U.S. Geological Survey Open File Map 75-277-5.

Northrop, Marie E., 1984, Spanish-Mexican Families of Early California, Vol. II, Southern California Genealogical Society, Burbank.

Oakeshott, G.B., 1980, Geologic and Tectonic Setting of the Epicentral Area, Livermore Earthquakes of January, California Geology.

Olds, Kenneth, 1991, Superintendent, Lammersville School District, personal communication with Carolyn Mills, Mills Associates, 28 February and 19 April.

Olson, Dan (National Park Service, San Francisco), 1992, Personal communication by telephone with Suzanne Baker of Archaeological/Historical Consultants, 4 February.

Oppenheimer, D.H. and N.G. MacGregor-Scott, 1991, Seismic potential of the east San Francisco Bay region of California, Geological Society of America, 23(2):85.

Pacific Gas and Electric Company, 1989, Electric Equipment Summary, Public Issue Policy Statement, June.

_____, 1990, Electric and Magnetic Fields (EMF), Public Issue Policy Statement, October.

Page, R.W., 1986, Geology of the Fresh Groundwater Basin of the Central Valley, California, with Texture Maps and Sections, U.S. Geological Survey Professional Paper 1401-C.

Parfrey, Eric, 1991, Senior Planner, San Joaquin County Community Development Department, memo, August 14.

Parker, Dennis, 1992, Project Development Manager, California Toll Road Company, personal communication with Mike Kennedy of DKS Associates, 10 February.

Pennino, Philip, 1991, Area Development Coordinator, Pacific Gas and Electric Company, personal communication with Lydia Huang, Baseline Environmental Consulting, 1 April.

Perrella, Anna Maria, 1991, Acting Executive Officer, Contra Costa County LAFCO, personal communication with Theresa Babich, CH2M Hill, 4, 8, and 10 April.

Peters, J.M., Thomas, D.C., Bowman, J.D., Sobel, E., Landon, S.J., Cheng, T.C., 1991, Exposure to Residential Electric and Magnetic Fields and Risk of Childhood Leukemia, prepared by University of Southern California for Electric Power Research Institute, Report No. EN-7464, November.

8.0 REFERENCES AND PERSONS CONSULTED

Phillips, Jim, 1991, Supervisor, State Department of Parks and Recreation, Diablo District, personal communication with Carolyn Mills, Mills Associates, 15 April.

Pisila, Dennis, 1991, Utility Planner, Contra Costa Water District, Telephone conversation with Ann Millican of CH2M Hill, October 14 and 30.

Price, Lil, 1991, San Joaquin County Department of Public Works, personal communication with Carolyn Mills, Mills Associates, 2 May.

Quail, H.E., 1912, Official Map of San Joaquin County, California, on file, Bancroft Library, University of California, Berkeley.

- R.W. Siegfried and Associates, 1991, Mountain House New Community, San Joaquin County, Estimates of Impervious Cover.
- Raj, Mukhlh, 1991, Golf Course Superintendent, Las Positas Golf Course, Livermore, personal communication with Lydia Huang, Baseline Environmental Consulting, 1 April.
- Rantz, S.E., 1971, Mean Annual Precipitation and Precipitation Depth-Duration-Frequency Data for the San Francisco Bay Region, U.S. Geological Survey, San Francisco Bay Region Environment and Resources Planning Study Basic Data Contribution 32.
- Reiche, P., 1950, Geology of Part of the Delta-Mendota Canal near Tracy, California, California Division of Mines and Geology Special Report 2.
- Remsen, J.V., Jr., 1978, Bird Species of Special Concern in California, California Department of Fish and Game, Wildlife Management Administrative Report No. 78-1, 55 pp., Sacramento, California.
- Remy, Michael H., Thomas, Tina A, and Moose, James G., 1992, Guide to the California Environmental Quality Act (CEQA), Sixth edition.**
- Repetto, Michael, 1991, Owner, Tracy Delta Disposal Company, personal communication with Claudia Delman, Mills Associates, 16 April.
- Rowe, Ken, 1992, County Assessor's Office, personal conversation with Kitty Walker, Senior Planner, San Joaquin County Community Development Department, 28 February.**
- Rubio, Eileen, 1991a, Senior New Business Representative, Pacific Gas and Electric Company, personal communication with Lydia Huang, BASELINE Environmental Consulting, 28 February.
- _____, 1991b, Senior New Business Representative, Pacific Gas and Electric Company, letter to Lydia Huang, Baseline Environmental Consulting, 24 April.
- _____, 1991c, Senior New Business Representative, Pacific Gas and Electric Company, personal communication with Lydia Huang of BASELINE Environmental Consulting, 10 October.
- RWQCB, Regional Water Quality Control Board, 1990, The Water Quality Control Plan (Basin Plan) for the Central Valley Regional Water Quality Control Board (Region 5), Second Edition, 22 March.
- Sabsay, David, 1987, Branch Library Study, Stockton-San Joaquin County Library, September.
- San Francisco Chronicle*, 1991, "Central Valley Threatened by Drought, Urban Growth," 4 March.
- San Joaquin County, 1973, Safety/Seismic Safety Element, San Joaquin County General Plan, Chapter II: Geologic Hazards.
- _____, 1988, 1995 Land Use/Circulation Element of the General Plan.
- _____, 1990, Draft Environmental Impact Report on the San Joaquin County Comprehensive Planning Program (ER-90-6) [SCH 9002 0018].

8.0 REFERENCES AND PERSONS CONSULTED

- _____, 1991, Office of the County Administrator, Lotus Data Files re Net County Costs.
- _____, 1991a, San Joaquin County Countywide General Plan, Volume I (Revised Draft).
- _____, 1991b, San Joaquin County Development Title (Revised Draft).

San Joaquin County, 1991c, Proposed 1991-92 Budget, June.

_____, 1991d, **Environmental Impact Report on the San Joaquin County Comprehensive Planning Program (Draft), December.**

San Joaquin County Agricultural Commissioners Office, 1990, 1990 Annual Crop Report.

San Joaquin County Community Development Department, 1990, Population, Housing, and Employment, Summary Planning Area and Community, June.

San Joaquin County Department of Public Works, 1991, Draft Improvement Standards.

San Joaquin County Flood Control and Water Conservation District, 1988, Lines of Equal Elevation of Water in Wells, 1988, approximate map scale 1:126,720.

San Joaquin County Office of Emergency Services, 1977, Counties and Cities Dam Failure Evacuation Plan.

San Joaquin County Planning Department, 1982, San Joaquin County 1982 Air Quality Management Plan.

San Joaquin Valley Unified Air Pollution Control District, 1991a, San Joaquin Valley Unified Air Pollution Control District PM-10 Nonattainment Area Plan.

_____, 1991b, Draft 1991 Air Quality Plan.

_____, 1991c, San Joaquin Valley Unified Air Pollution Control District PM-10 Nonattainment Area Plan.

_____, **1992, 1991 Air Quality Attainment Plan, January 30.**

Sanks, Robert L., 1978, Water Treatment Plant Design.

Savitz, D.A.; Wachtel, H.A.; Barnes, F., *et al.*, 1988, Case-Control Study of Childhood Cancer and Exposure to 60-Hz Magnetic Fields, American Journal of Epidemiology, Vol. 128, pp. 21-38.

Schloroff, R.W., and P.H. Bloom, 1984, Importance of Riparian Systems to nesting Swainson's Hawks in the Central Valley of California. In: California Riparian Systems: Ecology, Conservation, and Productive Management, University of California Press, Berkeley, CA, Warner, R.E. and K.M. Hendrix (eds.) 1984.

Schueler, Thomas, 1987, Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs, Washington Metropolitan Water Resources Planning Board, July.

~~Scott, Gerald, 1991, Executive Officer, San Joaquin County LAFCO, personal communication with Theresa Babich, CH2M Hill, 8 April.~~

Scott, Gerald, 1992, Executive Officer, San Joaquin County LAFCO, telephone conversation with Ann Millican, CH2M Hill, 20 February.

SCVWD, Santa Clara Valley Water District, 1989, Santa Clara Valley Nonpoint Source Study, Volume I: Load Assessment Report, 26 July.

8.0 REFERENCES AND PERSONS CONSULTED

Smith, D.J., 1991, Hydraulic and Water Quality Impact of the Proposed Mountain House New Town on the Sacramento-San Joaquin River Delta, unpublished report prepared by Resource Management Inc.

Smith, J.P. and R. York, 1988, Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society, Sacramento, California.

Smith, Jeff, 1991, Park Planner, San Joaquin County Department of Parks and Recreation, personal communication with Carolyn Mills, Mills Associates, 11 March.

_____, 1991, Park Planner, San Joaquin County Department of Parks and Recreation, personal communication with Claudia Delman, Mills Associates, 27 March and 2 April.

Sneed, Robin, 1992, Clinical Program Manager, Intermedics, personal communication with Irene Kan of BASELINE, 12 February.

Southern California Association of Governments, 1991, Draft Air Quality Management Plan 1991 Revision, Appendix IV-E: Transportation, Land Use and Energy Conservation Control Measures, December.

Specht, Fred K., 1990, Manager, Byron-Bethany Irrigation District, personal communication with Alan K. Ratcliff, State Water Resources Control Board, 31 October.

_____, 1991a, Manager, Byron-Bethany Irrigation District, personal communication with Lydia Huang, Baseline Environmental Consulting, 30 April.

_____, 1991b, Manager, Byron-Bethany Irrigation District, personal communication with Lydia Huang, Baseline Environmental Consulting, 22 March.

_____, 1991c, Manager, Byron-Bethany Irrigation District, personal communication with Robert Kemmerle, CH2M Hill, 5 April.

_____, 1991d, Manager, Byron-Bethany Irrigation District, personal communication with Robert Kemmerle of CH2M Hill, September 30.

State of California Water Resource Control Board, August 1990, *Revised Workplan for the Proceedings on the San Francisco Bay, Sacramento-San Joaquin Delta Estuary*. Sacramento.

Stern, A.C., 1977, Air Pollution, Volume II. Third Edition.

Sullivan, Forrest, 1992, Pacific Gas and Electric Company, Land Planning and Acquisition Director, letter to Ms. Kitty Walker of San Joaquin County Community Development Department, 30 January.

Sunset Magazine Homeseekers, 1915, San Joaquin County California for the Farmer, Board of Supervisors of San Joaquin County.

Taylor, Sid, 1991, Sanitary Engineering Associate, Regional Water Quality Control Board, Central Valley Region, personal communication with Lydia Huang, Baseline Environmental Consulting, 13 March.

The Fiscal Implications of Urban Growth in San Joaquin County, June, Economic and Planning Systems, Inc., 1989, Facing the Future.

Thompson and West, 1878, Official and Historical Atlas Map of Alameda County, California, Thompson and West, Oakland.

8.0 REFERENCES AND PERSONS CONSULTED

Tinkham, George H., 1923, History of San Joaquin County, California, Historic Record Company, Los Angeles.

Todd, Robert, 1991, Chief Ranger, State Department of Parks and Recreation, Diablo District, personal communication with Carolyn Mills, Mills Associates, 15 April.

Tracy Chamber of Commerce, 1991, personal communication with Claudia Delman, Mills Associates, 30 March.

Tracy Trans, 1989, personal communication between Tracy Trans information officer and Howard Roll, DKS Associates, 15 December.

Transportation Research Board, 1985, Special Report 209, Highway Capacity Manual.

Trimark, 1990, Mountain House General Plan Application, Chapter 3: Project Circulation System.

Trimark Communities, 1990, Mountain House New Town 4,667-Acre Expanded Study Area - Project Packet for Proposed Urban Area 2010 General Plan, 19 November.

_____, 1991a, letter from Ron Gross to Kitty Walker, Senior Planner, San Joaquin County Community Development Department, 15 February.

_____, 1991b, Mountain House New Community Proposed Urban Area 2010 General Plan, 22 January.

_____, 1991c, Mountain House New Community Proposed Urban Area 2010 General Plan, Wastewater Collection, Treatment, and Disposal, 22 January.

Trimark Communities, 1991, Fiscal and Financing Data Package for Mountain House New Community, June.

U.S. Department of Agriculture, 1986, Hydric Soils in San Joaquin, California, list by the Soil Conservation Service.

_____, 1988, Soil Conservation Service, Soil Survey of San Joaquin County (Draft).

U.S. Department of Transportation, Federal Highway Administration, 1985, Development and Application of Trip Generation Rates.

U.S. District Court, Northern District, 1843-1865, Land Case 170 ND, on file, Bancroft Library, University of California, Berkeley.

U.S. Environmental Protection Agency, 1985, Compilation of Air Pollutant Emission Factors Volume 1: Stationary Point Sources and Area Sources, Fourth Edition.

U.S. Environmental Protection Agency, 550/9-74-004, March 1974, Washington, D.C.

U.S. Fish and Wildlife Service, 1986, Draft Management Guidelines for the Swainson's Hawk, Region 1, Portland, Oregon.

U.S. Geological Survey, 1916a, Byron Quadrangle, on file, Map Library, University of California, Berkeley.

_____, 1916b, Midway Quadrangle, on file, Map Library, University of California, Berkeley.

_____, 1953, Midway Quadrangle, on file, Map Library, University of California, Berkeley.

_____, 1953, revised 1968, Midway Quadrangle, on file, Map Library, University of California, Berkeley.

_____, 1989, Lessons Learned from the Loma Prieta, California, Earthquake of October 17, 1989, USGS Circular 1045, 1989.

_____, 1990, Working Group on California Earthquake Probabilities, Probabilities of Large Earthquakes in the San Francisco Bay Region, California, U.S. Geological Survey Circular 1053.

U.S. Office of Technology Assessment, 1989, Biological Effects of Power Frequency Electric and Magnetic Fields, Washington D.C.

U.S. War Department, 1943, Byron Quadrangle, on file, Map Library, University of California, Berkeley.

University of California Extension, 1978, Estimated Economic Impacts in California, Sacramento Basin Input/Output Model.

Vaughn, Homer, 1991, Office of Drinking Water in Stockton, California Department of Health Services, personal communication with Lydia Huang, Baseline Environmental Consulting, 22 February.

Ventura County Air Pollution Control District, 1989, Guidelines for the Preparation of Air Quality Impact Analyses, June.

Wallace, John, 1870, Map of the County of San Joaquin, Bancroft Library, University of California, Berkeley.

Wallace, William J., 1978, Northern Valley Yokuts, In Handbook of North American Indians, Volume 8: California, Smithsonian Institution, Washington, D.C.

Warner, R.E., and R.M. Hendrix (eds.), 1984, California Riparian Systems - Ecology, Conservation, and Productive Management. University of California Press, Berkeley, California.

Wertheimer, N.; Leeper, E., 1979, Electrical Wiring Configurations and Childhood Cancer, American Journal of Epidemiology, Vol. 109, pp. 273-284.

Weslar, H.B., 1987, The range of the San Joaquin kit fox (*Vulpes macrotis mutica*) north of Kings County, California, Thesis, California State University, Hayward, California.

Wesnousky, Steven G., 1986, Earthquakes, Quaternary Faults, and Seismic Hazard in California, Journal of Geophysical Research, 91(B12):12,587.

Westcot Dennis, 1991, Senior Land and Water Use Analyst, Regional Water Quality Control Board, Central Valley Region, personal communication with Lydia Huang, Baseline Environmental Consulting, 26 February.

White, Gerald T., 1962, Formative Years in the Far West: A History of Standard Oil Company of California and Its Predecessors through 1919, Appleton-Century-Crofts, New York.

Winternitz, Leo, 1991, Environmental Specialist IV, Bay-Delta Unit, State Water Resource Control Board, personal communication with Lydia Huang of BASELINE, 8 October.

Winters, Michael, 1991, Vice President, Caldwell Flores Winters, Inc., telephone conversation with Carolyn Mills of Mills Associates, 15 November.

Wood, M. W., 1883, History of Alameda County, California, M.W. Wood, Oakland.

Zehner, Robert B., 1977, Access, Travel and Transportation in New Communities, publisher??

Zezulak, David, 1991, Associated Wildlife Biologist for Environmental Services, California Department of Fish and Game, Sacramento, California, personal communication with Sam McGinnis, August 16, 1991.

Ziender, D.C.; W.F. Laudenslayer, Jr.; K.E. Mayer; and M. White, 1990, California Wildlife, Volume II - Birds. The Resources Agency, Sacramento, California.

9.0 PERSONS INVOLVED IN REPORT PREPARATION

9.0 PERSONS INVOLVED IN REPORT PREPARATION

This Draft EIR was prepared by BASELINE Environmental Consulting in coordination with the San Joaquin County Community Development Department and a number of subconsultants who are identified below.

9.1 REPORT PERSONNEL

SAN JOAQUIN COUNTY COMMUNITY DEVELOPMENT DEPARTMENT

- Kitty Walker, Senior Planner
- Kerry Sullivan, Senior Planner
- Eric Parfrey, Senior Planner

ENVIRONMENTAL IMPACT REPORT (EIR) CONSULTANTS

BASELINE Environmental Consulting

- Yane Nordhav, Principal-in-Charge
- Amy Skewes-Cox, Project Manager

- Bruce Amen: Geology/Soils/Seismicity
- Lydia Huang: Public Utilities
- Irene Kan: Public Health and Safety
- Kevin O'Dea: Hydrology
- Sandi Potter: Geology/Soils/Seismicity
- Geneva Randall: Public Health and Safety
- Dominic Roques: Land Use
- Cindy Chan: Graphics
- Connie Ruben: Word Processing
- Ina Campbell: Word Processing
- Mark Mischon: Word Processing
- Susan Smith: Word Processing

Archaeological/Historical Consultants

- Suzanne Baker: Cultural Resources
- Laurence H. Shoup: Cultural Resources

Donald Ballanti

- Donald Ballanti: Air Quality

CH2M Hill

- Ted Way, Principal-in-Charge
- Robert Kemmerle: Public Utilities

EIR Consultants - continued

- Ann Bogush Millican: Public Utilities
- Janet Senior: Public Utilities
- Teresa Babich: Public Utilities

DKS Associates

- Mike Kennedy, Principal-in-Charge
- Howard Roll, Project Manager
- Dave Marshall: Traffic and Circulation Analysis

Economic and Planning Systems

- Walter Kieser, Principal-in-Charge
- Richard Anderson: Fiscal, Financial, and Jobs/Housing

Ellman, Burke, Hoffman, and Johnson

- John Hoffman, Attorney

Henderson and Associates

- Chuck Henderson: Visual Simulation

Ignacio San Martin

- Ignacio San Martin: Redesigned Project

Illingworth and Rodkin, Inc.

- Rich Illingworth, Principal-in-Charge
- Tassos Papadimos: Acoustics

Alan Marshall

- Alan Marshall: Computer Graphics

Mills Associates

- Carolyn Mills: Assistant Project Manager; Land Use and Public Services
- Don Dean: Land Use

Resource Management Associates

- Donald Smith: Hydrology

10.0 APPENDICES

APPENDIX 10.1

NOTICE OF PREPARATION AND INITIAL STUDY



**SAN JOAQUIN COUNTY
DEPARTMENT OF PLANNING AND BUILDING INSPECTION**

1810 E HAZELTON AVE STOCKTON CA 95205
PLANNING PHONE 209 468-3120
BUILDING PHONE 209 466 3123
NEIGHBORHOOD PRESERVATION PHONE 209/468-3021

CHET DAVISSON
Director

JERRY HERZICK
Deputy Director

RENE JACKSON
Deputy Director

TOM WALKER
Deputy Director

July 31, 1990

Notice of Preparation
Environmental Impact Report No. ER-91-1
Mountain House New Town
San Joaquin County

On the basis of the Initial Study prepared for the project described below, the Environmental Review Officer has determined that the project may have a significant impact on the environment and hereby gives notice that an Environmental Impact Report (EIR) is to be prepared in accordance with the provisions of the California Environmental Quality Act, as amended. The San Joaquin County Department of Planning and Building Inspection will be the lead agency for the project EIR.

We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project.

We are also soliciting comments from private parties as to the information that they feel should be included in the Environmental Impact Report.

Due to the time limits mandated by State law, your response must be sent at the earliest date but not later than 30 days after receipt of this notice.

Please direct any responses and comments to:

Kitty Walker, Senior Planner
San Joaquin County Department of
Planning and Building Inspection
1810 E. Hazelton Avenue
Stockton, CA 95205

Telephone (209) 468-3144

APPLICATIONS:

This EIR will be prepared to address the impacts related to a proposed "new town" called Mountain House. The applications consist of a General Plan Amendment and several related Williamson Act Contract Cancellations. Subsequent to these applications, if approved, will be the submittal of an implementing Specific Plan and Tentative Maps with additional environmental review.

The following applications have been submitted for the project:

- A. GP-89-11. A General Plan Amendment to change the General Plan on 4,667 acres from Agriculture to New Town which will consist of the following designations:

<u>Residential</u> - Low	31%
Medium	10%
Medium-High	3%
High	2%
<u>Commercial</u>	6%
<u>Industrial</u>	6%
<u>Schools</u>	5%
<u>Commercial/Recreation</u>	5%
<u>Public Open Space</u>	16%
<u>Utilities and Roads</u>	16%
	<u>100%</u>

- B. WC-90-6, WC-90-7, WC-90-8. Three Williamson Act Contract Cancellations to cancel a total of 1,147.832 acres currently under three separate contracts and located within the Phase I area of the new town.

Trimark Communities, the applicant, applied for a New Town (or New Community in the Draft General Plan) on 3,788 acres. Staff has expanded the application to 4,667 acres. This expansion creates boundaries that are easily defined and more closely meet the intent of the General Plan's New Town Policies (see Attachment 3 which illustrates the area expanded by staff).

Please Note: Unless otherwise noted, data and information presented in the following summary of potential significant impacts is based on the applicant's project area of 3,788

acres and not the total 4,667 acres as expanded by staff. Additional data collection/analysis will be included in the EIR for this expanded area.

No Specific Plan has yet been submitted (at the County's request). It is hoped that the preparation of this EIR will provide information on environmental constraints that will, in turn, appropriately influence the detailed design of the new community. However, projections on dwelling unit counts, acreages, and population have been included in the General Plan Amendment proposal as described below:

**General Plan Amendment Area Land Use Program
(4,667 Acres)**

Land Use	Acres	% of Total	People/du	Population
Low Density (3 to 4 du/ac)	1,429.8 (5,090 du)	31%	3.3	16,797
Medium Density (6 to 8 du/ac)	492.2 (2,951 du)	10%	3.1	9,148
Medium-High Density (13 du/ac)	151.2 (1,965 du)	3%	2.5	4,915
High Density (30 du/ac)	82.9 (2,487 du)	2%	1.9	4,725
Total Residential	2,156.1 (12,494 du)			35,585

Land Use	Acres	% of Total	Sq. Ft.
Office/R&D	101.9	2%	1,242,854
Light Industrial	194.5	4%	2,372,278
Warehouse/Distribution	125.0	2%	1,089,000
Shopping Center	33.0	1%	402,000
Town Center Retail/Office/Civic Hotel	35.0 7.5	1%	524,000 175 rooms
Village Commercial	72.0	2%	841,956
Total Commercial	568.9		6,472,088/ 175 hotel rooms

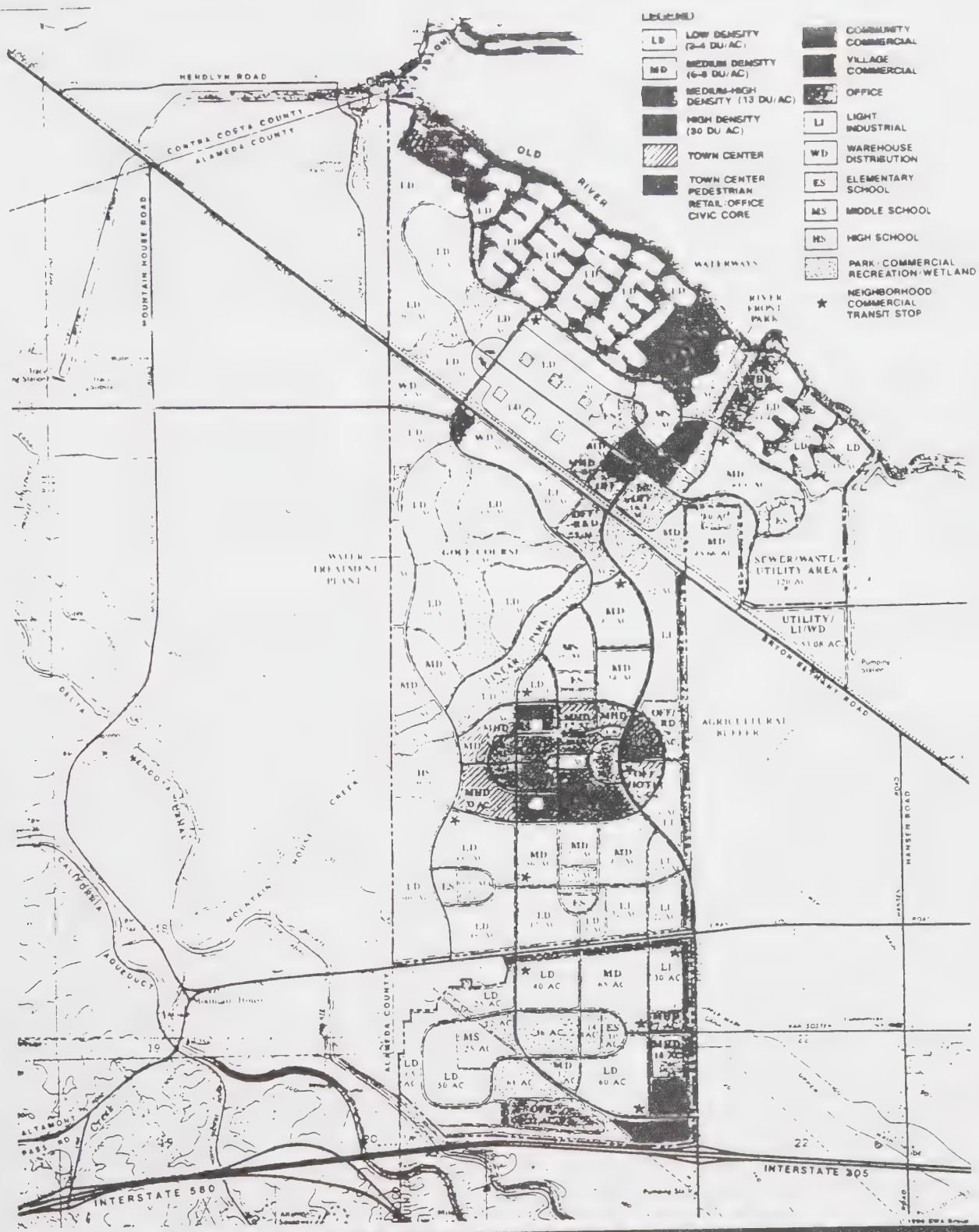
Land Use	Acres	% of Total
Elem. Schools (6 @ 10 acres ea.)	60.0	
Middle Schools (3 @ 35 acres ea.)	105.0	
High School (1 @ 50 acres ea.)	50.0	
Total Schools	215.0	5%

Land Use	Acres	% of Total
Golf Course/Driving Range/Club	142.0	
Marina/Boat Harbor/Restaurant	55.0	
Area A Commercial Recreation	39.0	
Total Commercial Recreation	236.0	5%

Land Use	Acres	% of Total
Neighborhood/Community Parks	235.0	
Riverfront Park	26.0	
Town Center Park	10.0	
Linear Park/Wetlands & Open Space Corridor	126.0	
Agricultural Buffer/Retention	94.0	
Waterways	230.0	
Total Public Open Space	721.0	16%

Land Use	Acres	% of Total
Water/Sewer/Waste Utility Area	150.0	
Water Treatment Plant	23.0	
Existing Streets	47.0	
Major Roads	533.0	
Railroad	17.0	
Total Utilities & Roads	770.0	16%

Total General Plan Amendment Area	4,667.0	100%
--	----------------	-------------



MOUNTAIN HOUSE NEW TOWN

SAN JOAQUIN COUNTY, CALIFORNIA

FIGURE: 2
EXPANDED AREA
LAND USE PLAN



Developers
Land Planners
Environmental Planners
Traffic Planners
Civil Engineers

TRIMARK Communities
The SWA Group
EIP Associates
Korve Engineering, Inc.
R. W. Siegfried & Assoc.



0 1000 3000 ft.

REVISED: MAY 22, 1990

LOCATION:

The 4,667-acre project site is bounded by Old San Joaquin River on the north, agricultural lands and Patterson Pass Road on the east, Alameda County on the west, and the I-205 corridor on the south. The site slopes gradually to the northeast and is primarily farmed in row crops. Mountain House Creek runs northeast across the site. Access is provided by I-205, I-580, Patterson Pass Road, and Grant Line Road interchange, Byron-Bethany Road, Kelso Road, and the Southern Pacific Railroad.

Significant Impacts Identified in the Initial Study:

A. General Plan Policies.

Current Plan. The proposed project appears to be consistent with the overall spirit and intent of the New Town Policies of the current General Plan, although it may not be specifically consistent with the first two. The first policy states that:

The County shall recognize in designating a new town site that it is intended to minimize impacts on agriculture, particularly by limiting growth onto additional prime agricultural lands of the valley floor.

Class II (prime) soils make up 82% of the project site. The project proponents state that although this land is considered prime by the Soil Conservation Service, it is marginally productive when examining the County's farmland as a whole, and that development at this location is preferable to most other areas slated for urban development. Further, they state that any development in the Tracy urban area would take place on prime farmland.

The second policy states that:

The development of new towns shall minimize resulting adverse impacts on surrounding urban centers.

Data is currently inadequate to determine whether or not the proposed industrial, retail, and office uses would have a negative economic impact on the City of Tracy. Consistency with this policy will have to be reevaluated once the final fiscal and economic reports have been completed.

The remaining policies appear to be consistent with the proposal (see Attachment 4 for the complete set of policies).

Draft Plan. The project appears to be consistent with the Draft Plan Policies as well, with some specific caveats. The proposed growth accommodation policies require the establishment of effective mechanisms to guarantee the preservation of a comparable amount of prime agricultural lands to that proposed for a new community. They also require revised County population projections if comparable acreage is not redesignated to agriculture. This issue along with requirements for job/housing balance and fiscal resources will have to be examined in more detail before consistency can be determined (see Attachment 5 for the complete set of proposed policies).

This Mountain House proposal does create conflicts with the population projection and population distribution assumptions of the draft plan. The project area is outside of any growth area in the plan, thus some readjustment of land uses and population distribution would need to be made to the plan, if the project is approved, in order to maintain internal consistency.

B. Land Use.

Approximately 4,016 acres, or 86%, of the total 4,667 project area is in prime farmland as illustrated below:

Capability	I (irrigated) s+w	111 acres (2.3%)
Capability	II (irrigated) w	3,905 acres (83.6%)
Capability	III (irrigated) s, w+c	300 acres (6.4%)
Capability	IV (non-irrigated)	350 acres (7.5%)

Although the applicant contends that this is marginal farmland in comparison to more productive farmland elsewhere in the County, it is nevertheless considered prime soil by the Soil Conservation Service.

Williamson Act Contracts cover a majority of the project site, although Notices of Nonrenewal have been filed on all parcels within Trimark Communities' original proposal of 3,788 acres. Trimark's proposed phasing plan is designed so that contract cancellations will only be required for Phase I development. Contracts on subsequent phases will have expired before development begins, with the exception of parcels 56 and 65 in Phase III and parcels 58, 77, 125, and 126 in Phase IV (see Attachment 6). These parcels must file Notices of Nonrenewal, at a minimum, before the new community land use designations can be applied.

Currently, the site is almost entirely in one type of agricultural use or another, as illustrated in Attachment 7. The only exceptions are some dryland farming areas that may not be in current use and single-family residences located along Old River at the northern edge of the site.

Because the site is primarily cultivated farmland, less than 3% of the site is in natural vegetation. Levee work for the marina area would impact known locations of Mason's lillaeopsis, potential location of heart-leaved saltbush and several other plants of concern. Also, some marsh habitat would be lost in the southern portion of the project. Wildlife impacts would be minimal as well because of the disturbed nature of the site. Although habitats suitable for the maintenance and reproduction of wildlife are minimal, the site serves as a wintering area for a wide variety of raptors, waterfowl, and small birds (see Attachment 8 for illustration of vegetation and wildlife).

- C. Noise. The County requires that noise levels be limited to 65 DBA at the property line for single-family homes. Thus, proposed low density residential uses adjacent to the Southern Pacific Railway running along Byron-Bethany Road would experience excessive noise exposure. It is not known what noise exposure levels uses adjacent to I-205 would experience.

D. Services:

Water. Mountain House community will receive raw water from Byron-Bethany Irrigation District (BBID). Areas not currently within BBID will be annexed to the district. Additional appropriative rights may need to be obtained from the State to permit additional Delta diversions during the winter months. An estimated 6.1 mgd will be needed for the applicants' 3,788 acres. A new water treatment plant, a treated water storage reservoir, and pump station are proposed by the applicant as part of a new Community Service District (CSD).

Sewer. 3 mgd of sewage production is estimated for the applicant's 3,788 acres. Their proposal to build a sewage treatment facility with a capacity of 3 mgd would have to be enlarged to serve the 4,667-acre project area. The plant would be capable of recycling 60 to 70 percent of the total wastewater generated by the community. This facility would be run by the same CSD. The applicant is currently proposing to discharge treated wastewater into Old River during the wet winter months when on-site disposal may be impractical.

Solid Waste. Estimated solid waste generation for the applicant's 3,788-acre area at a population of 28,800 is estimated at 42,049 tons per year. Waste would be disposed of at the Foothill Landfill via a south county transfer station which is still in the planning stages.

Schools. Using the applicant's 3,788-acre area with a buildout population of 28,800, 3,382 elementary school; 1,507 middle school; and 2,150 high school students are estimated. Also, based on accepted standards, a full-service library would be required.

Police and Fire. Significant police and fire protection services would be required to service this community. Costs for police services at buildout are estimated at \$4.5 million a year for the 3,887-acre area of the new town. It is proposed that the CSD will assume responsibility for providing police and fire services, although initially services would be provided through contractual arrangements with the Sheriff's Office and the Tracy Rural Fire Protection District.

- E. Surface Hydrology. The project will have a major impact on surface hydrology. As an urban area, it will have a higher percentage of impervious surfaces that will result in a higher degree of surface runoff. Also, urban surface runoff will contain certain pollutants. The development will require flood protection improvements to Mountain House Creek. In the area adjacent to Old River which is currently designated as a 100-year flood plain, a Marina development is proposed with most of the land uses water-oriented with new waterways created that will connect to Old River. This will modify the current flood plain status which is designated as Zones A2, A3, A16, and A17 on the Current FEMA maps with approximate flood elevations of 8 to 11 feet outside the actual floodways.

A storm drain system will be constructed in the community that will include a number of retention basins that are interconnected by disposal pipelines with ultimate disposal of runoff to Old River. The purpose of the basins is threefold: (1) provide local storage which will lessen the peak runoff and, therefore, reduce the initial cost of the downstream disposal system costs; (2) be a treatment component in an overall effort in meeting the anticipated requirements of the State Water Resources Control Board (SWRCB) as it relates to storm water discharge; and (3) prevent increased runoff release rates onto other properties.

Possible mitigation measures include:

- ° Urban runoff: Consider incorporation methods of treatment into the design of the storm water retention basins, such as extended detention for sediment removal or vegetation for nutrient removal.

- ° Subsurface (tile drain) discharges: Locations and extent of existing drains should be determined; the need for such drains as part of the new community should be assessed; methods of conveyance, treatment, and disposal of the drain water should be considered in the design of the community and its infrastructure. The creation of a wetlands buffer zone near the Old River and along Mountain House Creek is one possible method of treatment. Another option is to route the drains to the storm water retention basins for treatment there. If quantities of drain water are relatively small, the drain water could be routed to the community treatment plant.

To flood protect the development adjacent to Old River, it is proposed that the design and construction of improvement comply with the flood protection regulations of the County and FEMA. The proposed design of the water inlets and waterfront homes along the levee and various peninsulas is calculated to balance the inlet excavation with the filled and raised peninsulas. The result will be that all buildings will be constructed at elevations of 9 to 12 feet above sea level which is at a minimum of 1 foot above the 100-year flood elevation.

- F. Air Quality. Impacts to air quality caused by the project will be primarily due to increased automobile traffic in the immediate area of the site. Computer modeling done for the 3,788-acre portion indicate for the one hour average of carbon monoxide, with or without the project, concentrations will not exceed ambient air quality standards. For eight-hour averages, the assumed ambient concentration is already above standard. The location of heaviest potential impact is the intersection of Patterson Pass Road and Grant Line Road.
- G. Transportation. The project, at buildout, will generate 193,000 vehicle trips per day based on the applicant's 3,788-acre site. The applicant estimates that 100,000 trips, or 52%, would remain within the project boundaries. The remaining 93,000 daily trips would be made between the project site and external locations (see table below which reflects land use patterns 20 years distant).

**Project Trip Generation
Approximate Daily Trips Between Mountain House and
Surrounding Region**

Area	Daily Trip Productions	Daily Trip Attractions	Total	Percent of Total
Mountain H'se (Internal trips)	50,000	50,000	100,000	52.0%
Tracy	14,700	21,700	36,400	19.0%
Remaining San Joaquin County, including Stockton	10,100	12,700	22,800	12.0%
Tri-Valley and I-680 Corridor	6,500	8,600	15,100	8.0%
Route 4 Corridor (Brentwood, Antioch, etc.)	3,000	5,400	8,400	4.0%
East Bay, South Bay, and Beyond	6,000	4,200	10,200	5.0%
Total	90,300	102,700	193,000	100.0%

Specific highways and streets most likely to be impacted by the addition of project traffic include I-205, Patterson Pass Road, Grant Line Road, and Byron-Bethany Road, all which will carry traffic to and from the Tracy and Stockton areas.

West and north of the project site, Grant Line Road, Altamont Pass Road, Byron-Bethany Road, and I-580 are also likely to be impacted. Altamont Pass Road will serve as an alternate route over the pass for Mountain House residents and employees. Lesser impacts are likely on secondary roads, such as Von Sosten Road and Schulte Road.

Major interchanges to be impacted include the I-205/Patterson Pass Road and the I-580/Grant Line Road interchanges. Improvements will be required at these locations. Other interchanges likely to be impacted to a lesser degree include the 11th Street and Grant Line Road interchanges on I-205 east of the project, and the I-580/Patterson Pass Road interchange south of the site.

Arterial road intersections in the project area most likely to be impacted include Grant Line at Patterson Pass, Grant Line Road at Byron-Bethany Road, Grant Line Road at Altamont Pass Road, and Patterson Pass Road at Byron-Bethany Road. These intersections will all require improvement in order to accommodate estimated future traffic generated by the project and other development in the region.

Mitigation measures for both air quality and transportation revolve around the New Town's proposal to balance jobs and housing as well as the intensive use of transit routes and links, pedestrian routes, and bicycle paths.

H. Biota. See the Land Use discussion.

I. Aesthetics. There will be an unavoidable, significant impact to aesthetics created by the project. Development of this site will change an existing rural agricultural area with unobstructed vistas, to one of a built urban environment. Utilization of open spaces, water features, significant landscaping, and buffers will soften and enhance the built development, but cannot fully mitigate the aesthetic loss of open farmland.

J. Fiscal Impacts. The fiscal impact analysis assumes that the Mountain House community would remain unincorporated through the analysis period, but that a newly-created Community Services District would provide urban levels of service for typical municipal functions without creating a fiscal burden to existing jurisdictions. The service functions taken over

by the District would include public safety, parks and recreation, capital maintenance, risk management, and finance. San Joaquin County would continue to provide all the services it normally provides to the entire county.

It is projected that infrastructure costs would range from 12 to 17 percent of estimated home sale prices and \$2.50 to \$3.50 per square foot load on industrial and commercial property, respectively. Of this, approximated 10% would be for off-site costs or approximately \$3,000 per household. A comparison of revenues to capital costs is detailed below for each phase of development. Costs of infrastructure construction will likely exceed revenues produced by land sales during the early years of the project.

- K. Growth Inducement. Although the premise of the Mountain House application is to create a self-sufficient and separate community, growth inducement impacts can be expected. Growth inducement can be expected to the:

east - increased pressure to urbanize land between the new town and the City of Tracy which is currently experiencing their greatest growth pressures in the direction of Mountain House.

south - the I-205 Corridor will be subject to increasing pressure to develop as greater numbers of commuters travel over the Altamont Pass. In addition, industrial growth occurring to south of I-205 on Patterson Pass Road will create growth pressures in this area.

west - although the Alameda County portion of this project was dropped some time ago, it is likely that at some point in time the Mountain House project would induce urban growth into this area.

north - growth inducement directly north of the project across Old River is not likely due to the limitations of this delta area. However, to the northwest into Contra Costa County growth inducement is quite likely. Growth is already extending east towards Byron and there are plans to significantly expand the Discovery Bay community. This area already uses Byron-Bethany Road to I-205/580 as an alternate route into the Bay Area since Route 4 is so congested.

Attachments 1-8
Initial Study

Notice of
Preparation

ER-91-1

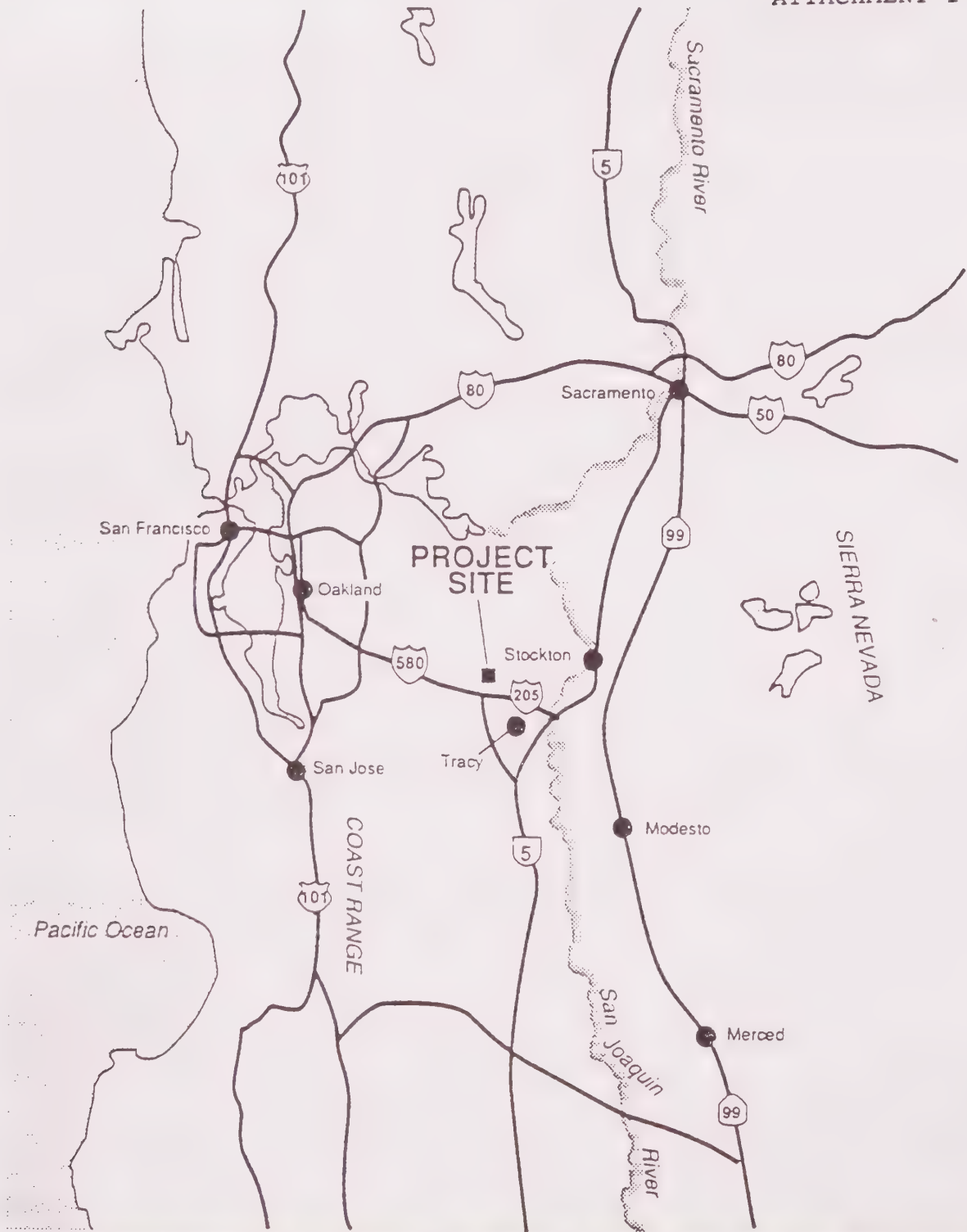
Table 4.1-6 Allocation Of Capital Costs To Real Estate Products

	I (1993-95)	II (1995-00)	III (2000-05)	Total	Percentage
Allocation Summary					
Industrial Acreage	55	196	290	541	24%
Commercial Acreage	2	44	125	171	7%
Residential Units	1,077	4,567	4,486	10,130	
Low Density (4/acre)	594	2,205	1,442	4,241	
Medium Density (8/acre)	350	1,071	765	2,186	
Medium-High (13/acre)	133	700	833	1,666	
High Density (30/acre)	0	591	1,446	2,037	
Cost Allocation Per \$1 / Unit					
SF Industrial Land	\$2.50	\$2.50	\$2.50		
SF Commercial Land	\$3.50	\$3.50	\$3.50		
Per Residential Unit					
Low Density (\$289,000)	\$50,000	\$50,000	\$50,000		
Medium Density (\$225,000)	35,000	35,000	35,000		
Medium-High (\$175,000)	25,000	25,000	25,000		
High Density (\$80,000)	10,000	10,000	10,000		
Allocation By Use & Total (\$1,000)					
Industrial Acreage	5,990	21,344	31,581	58,915	
Commercial Acreage	305	6,708	19,058	26,071	
Residential Units					
Low Density	29,700	110,250	72,100	212,050	
Medium Density	12,250	37,485	26,775	76,510	
Medium-High	3,325	17,500	20,825	41,650	
	I (1993-95)	II (1995-00)	III (2000-05)	Total	Percentage
High Density	0	5,910	14,460	20,370	
Total All Land Uses	\$51,569	\$199,198	\$184,799	\$435,566	

Table 4.1-6, Continued

Net Balance (\$1,000)	(\$26,311)	(\$2,597)	\$129,909	\$101,001	
Net Present Value Of Bal (\$1,000) discounted @6%	(\$20,840)	(\$1,603)	\$60,906	\$38,436	

Source: Economics Research Associates



MOUNTAIN HOUSE NEW TOWN

SAN JOAQUIN COUNTY, CALIFORNIA

Developers
Land Planners
Environmental Planners
Traffic Planners
Civil Engineers

TRIMARK Communities
The SWA Group
EIP Associates
Korve Engineering, Inc.
R. W. Siegfried

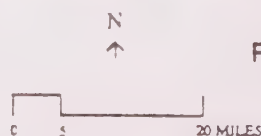
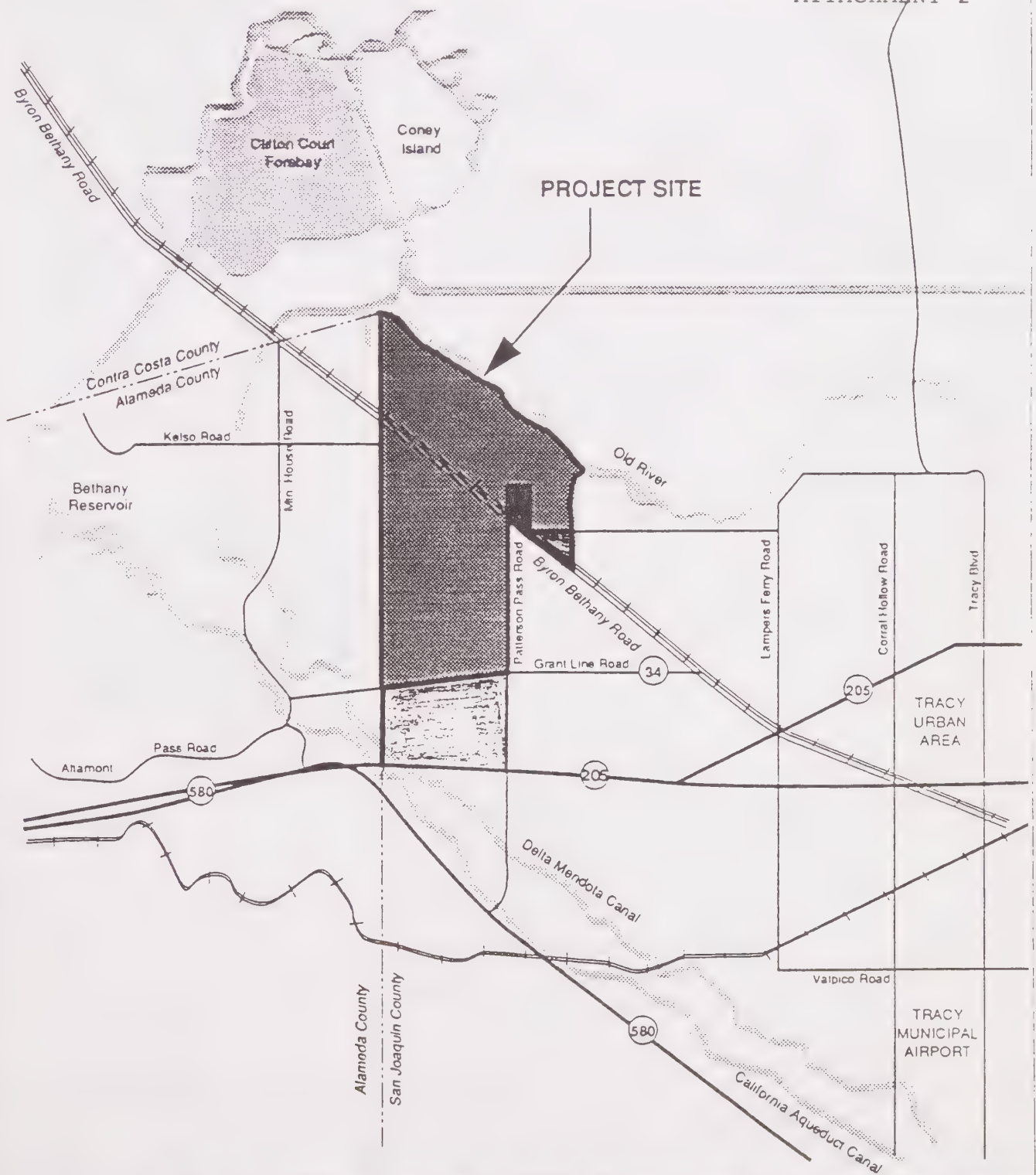


FIGURE 1

REGIONAL SETTING



MOUNTAIN HOUSE NEW TOWN

SAN JOAQUIN COUNTY, CALIFORNIA

Developers
Land Planners
Environmental Planners
Traffic Planners
Civil Engineers

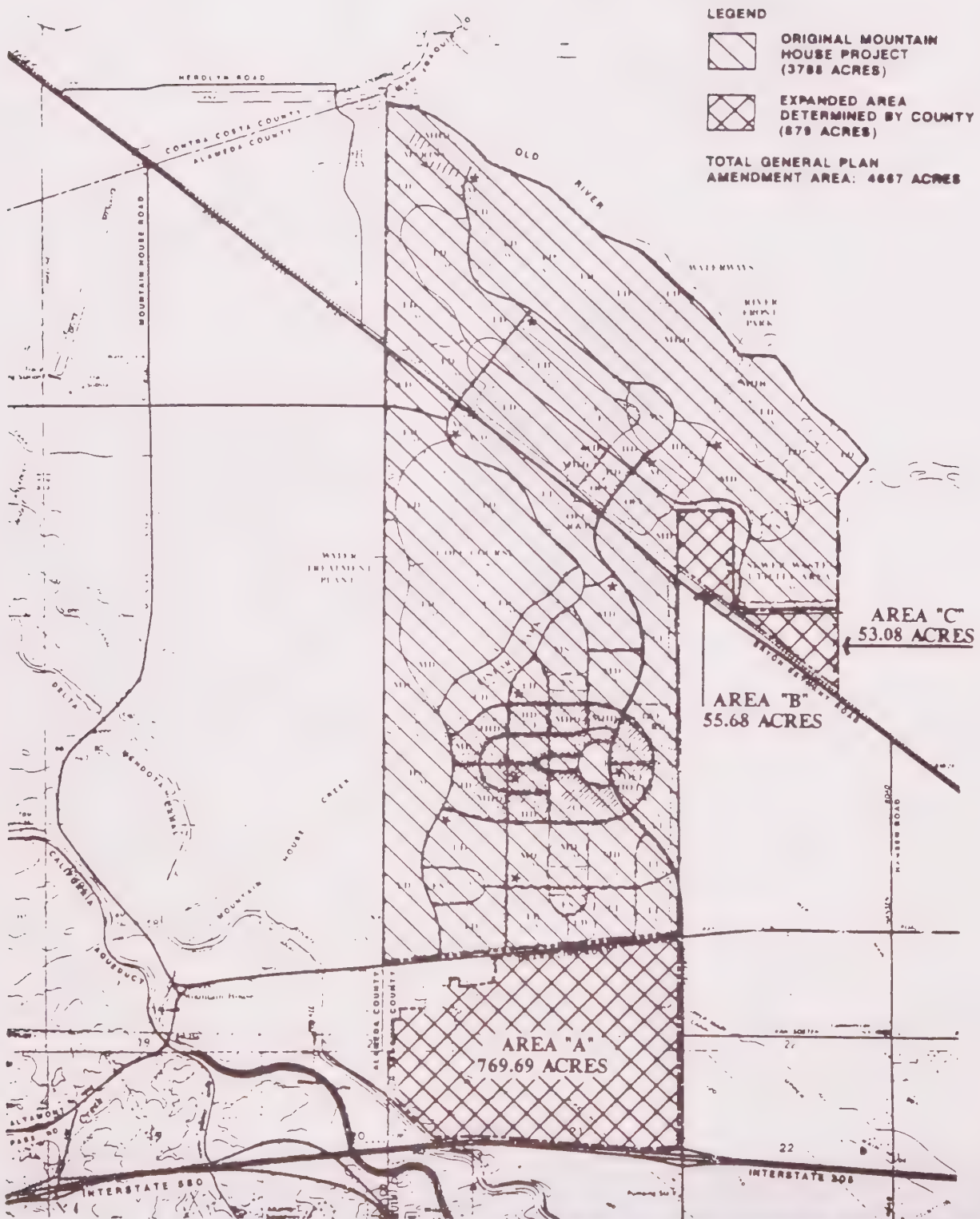
TRIMARK Communities
The SWA Group
EIP Associates
Korve Engineering, Inc.
R. W. Siegfried

N
↑

0 200 800 FT

FIGURE 2

SITE AND VICINITY



MOUNTAIN HOUSE NEW TOWN

SAN JOAQUIN COUNTY, CALIFORNIA

Developers
Land Planners
Environmental Planners
Traffic Planners
Civil Engineers

TRIMARK Communities
The SWA Group
EIP Associates
Korve Engineering, Inc.
R. W. S. Fried & Assoc.

10.1-16

N
↑

GENERAL PLAN
AMENDMENT AREA

0 1000 2000

DATE: 10/17/1990

Rural Center Policies

1. Each Rural Center shall be limited in size to approximately 160 acres. At such time as a Rural Center exceeds approximately 160 acres in size it shall be reclassified as an Urban Center.
2. Within the existing boundaries of Rural Centers, 30,000 square feet shall be the minimum parcel size allowed within the Suburban Density Residential designation when a public sewage disposal system is not available. This size requirement may be reduced to 20,000 square feet when it can be shown as part of a Reclassification Application that 20,000 square feet is adequate for a dwelling unit, septic system, and typical accessory structures.
3. Residential development on new parcels smaller than 20,000 square feet in size may be considered only when the development will be served by a public sewage disposal system.

New Town Policies

1. The County shall recognize in designating a new town site that it is intended to minimize impacts on agriculture, particularly by limiting growth onto additional prime agricultural lands of the valley floor.
2. The development of new towns shall minimize resulting adverse impacts on surrounding urban centers.
3. In new towns, the precise locations of the various uses on the Land Use/Circulation Element Map shall be determined by specific plans, which are to be consistent with the written policies of the General Plan.
4. The following utility policies shall apply to new towns:
 - a. All development shall be served by a community water system.
 - b. All development, with the exception of any Estate Residential development, shall be served by a community sanitary sewer system.
 - c. If terminal drainage cannot be provided, drainage shall be provided by other methods approved by the County.
5. The design of the development in new towns should encourage neighborhood identification.
6. An appropriate variety and choice of housing for all socio-economic segments of the community shall be provided.
7. The circulation system of a new town shall provide for opportunities for automobiles, pedestrians, bicycles and public transit.

8. The following site development policies shall apply to new towns:

- a. All development and construction activity should minimize erosion by methods such as limiting any necessary grading on unstable slopes to the dry months and assuring planted slopes during the rainy season.
- b. Structures shall be set back at least 50 feet from any identified fault, as determined by a registered geologist.
- c. Ridgelines and major hill tops are to remain undeveloped in order to preserve the natural contours of the site.

9. The phasing of development in new towns shall conform to the following policies:

- a. The County shall ensure that public facilities and services required by the General Plan Amendment and any Specific Plans shall be available concurrent with need by requiring the developers to present evidence, including security if necessary, that the required facilities and services will be provided.
- b. All public facilities, including but not limited to utilities, schools, roads, parks, fire and police stations, shall be constructed, dedicated to the appropriate agency, and made operational as specified in the phasing program of a town-wide Specific Plan.
- c. Each phase of development shall be compact in order to minimize the costs of public improvements.
- d. The phasing of the development generally should provide revenues in excess of service costs to the County, other impacted public agencies, and residents of the community.

P. IV-6 & 7, Growth Accommodation Policies for New Communities:

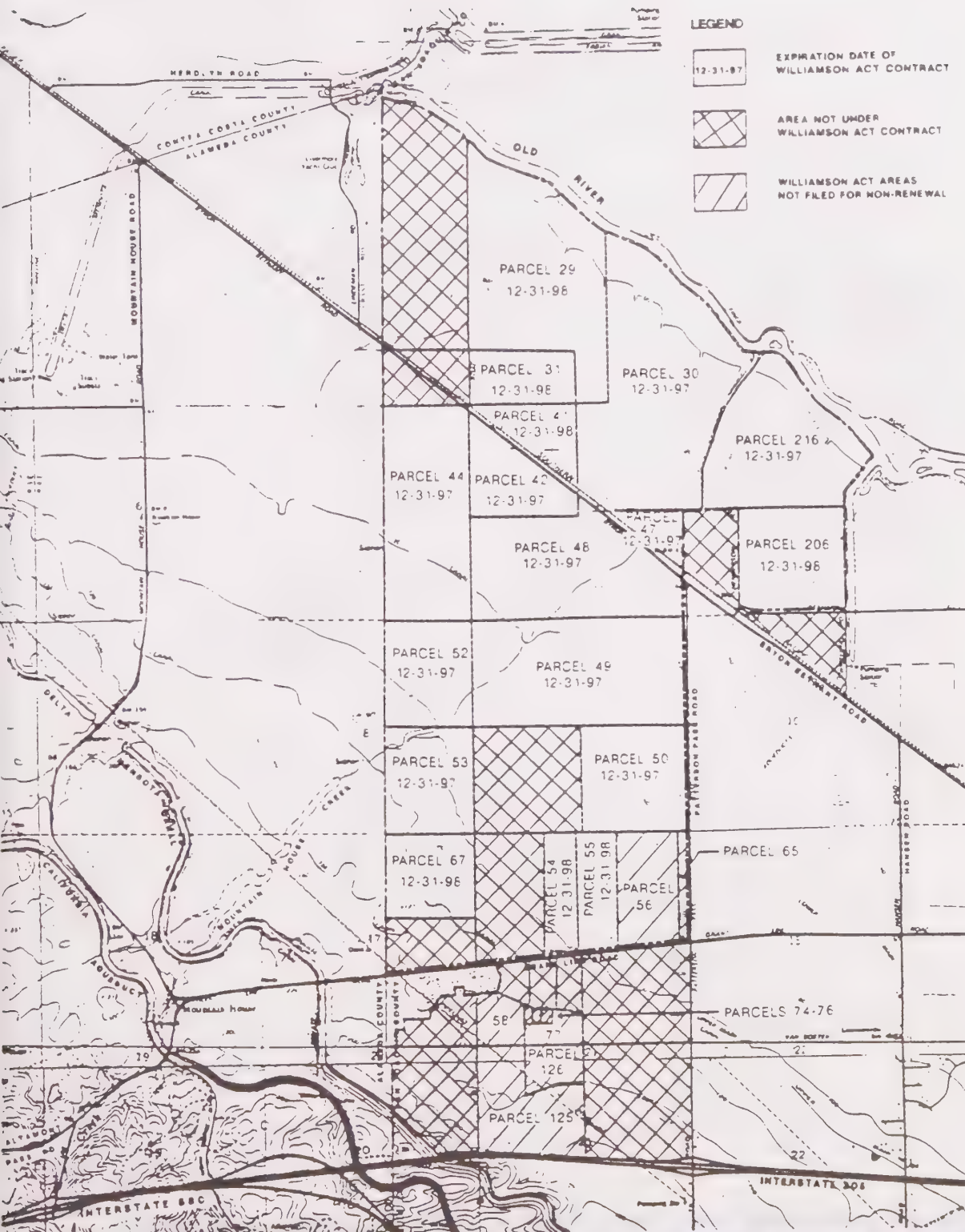
"New Communities:

9. New communities shall be encouraged if, by their creation, prime agricultural land will be preserved in areas otherwise slated for urban development. Approval of any New Community application shall be dependent on the effectiveness of establishing mechanisms to guarantee preservation of a comparable amount of prime agricultural lands.
10. An application to add a New Community to the General Plan shall be accompanied by a corresponding amendment application to redesignate lands planned for urban development to Agriculture or to revise population projections and allocations for the County, based on credible studies. Acreage approved for a New Community shall be offset by an equal number of acres redesignated to Agriculture. If the lands to be redesignated are in an urban community containing a city, the city must agree with the Agriculture designation before it can be approved.
11. New communities shall:
 - (a) be adequately sized in order to provide a full range of services, urban infrastructure, and job opportunities;
 - (b) be located so that growth is directed away from prime agricultural land and other significant environmental resources;
 - (c) be developed at urban densities;
 - (d) be served by community water, sewage disposal, and terminal storm drainage systems;
 - (e) be site planned and designed to include identifiable neighborhoods with a network of pedestrian open spaces within each neighborhood as well as connecting neighborhoods, commercial areas, and employment centers;
 - (f) provide a variety and choice of housing for all socio-economic segments of the community;
 - (g) maintain a close balance between jobs and housing;

- (h) contain a circulation system that provides for automobiles, pedestrians, bicycles, and public transit;
- (i) be located and designed to ensure that they will continue to be distinct communities, separate from existing communities;
- (j) not adversely affect the fiscal resources of nearby cities or the County;
- (k) ensure mechanisms for public services' and facilities' financing of on and off site improvements for each phase of development; and
- (l) be planned to be self-sustaining so that they can logically petition for incorporation.

"New Communities:

- "(a) A General Plan Amendment application for a New Community shall include documentation that adequate water is or will be available to serve the community."
- "(b) A Specific Plan, at a level of detail to enable full implementation of the development, shall be adopted for a New Community. The Plan shall contain a detailed infrastructure phasing plan; a financing plan with phased costs and revenues; a jobs/housing plan that establishes a ratio of jobs to housing and a program to monitor and maintain that ratio; an affordable housing plan that establishes mechanisms to ensure opportunities for housing for all those employed in the community and a program to monitor and maintain those opportunities; and a plan to address environmental impacts. Monitoring to determine compliance with the Specific Plan shall occur prior to the approval of a new phase of development."



MOUNTAIN HOUSE NEW TOWN

SAN JOAQUIN COUNTY, CALIFORNIA

- Developers
- Land Planners
- Environmental Planners
- Traffic Planners
- Civil Engineers




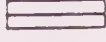




TRIMARK Communities
The SWA Group
EIP Associates
Korve Engineering, Inc.
R. W. Siegfried

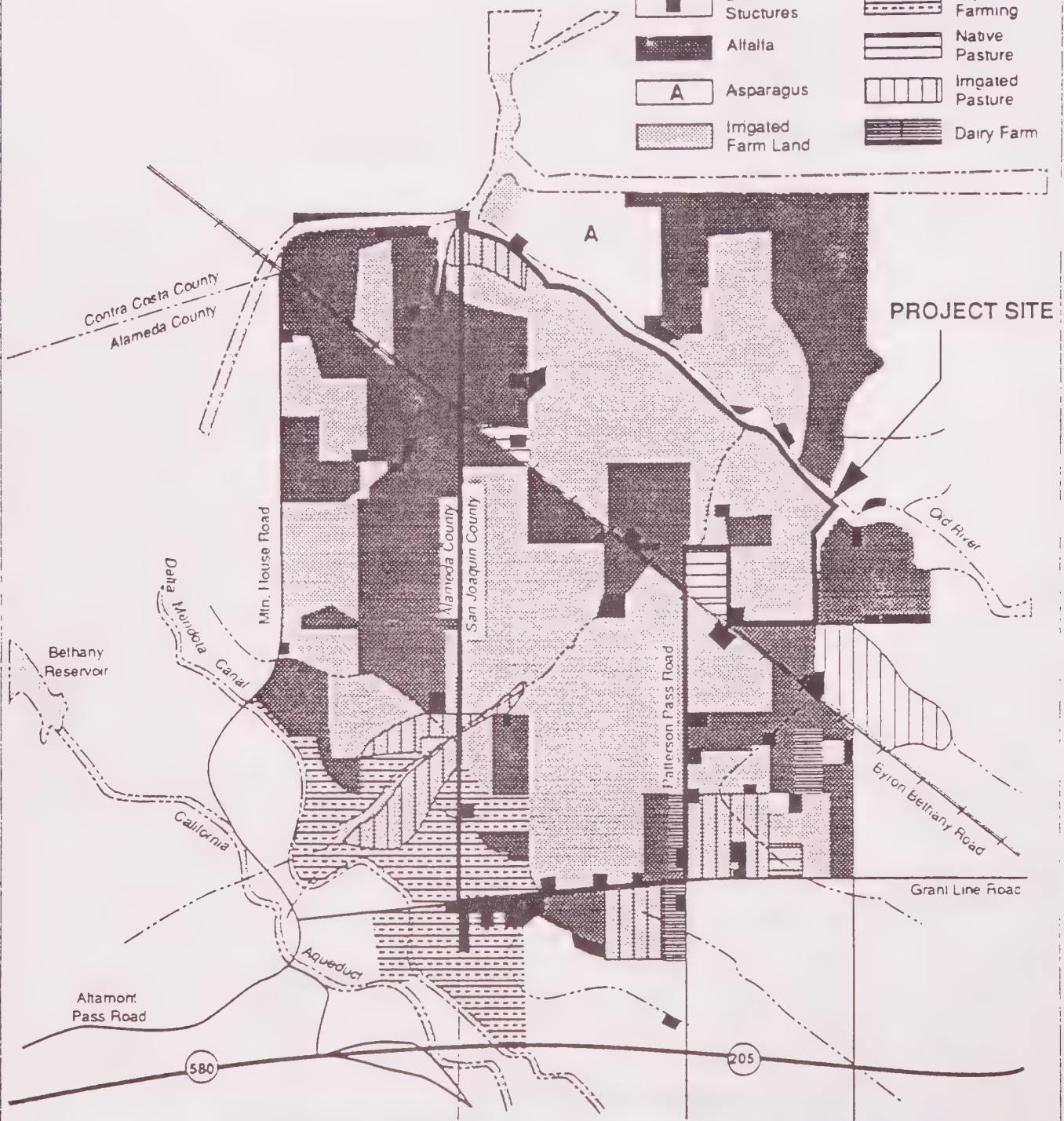
WILLIAMSON ACT
STATUS

Page - 12

10.1-21

LEGEND

	Built Structures		Dryland Farming
	Alfalfa		Native Pasture
	Asparagus		Imigated Pasture
	Imigated Farm Land		Dairy Farm



MOUNTAIN HOUSE NEW TOWN

SAN JOAQUIN COUNTY, CALIFORNIA

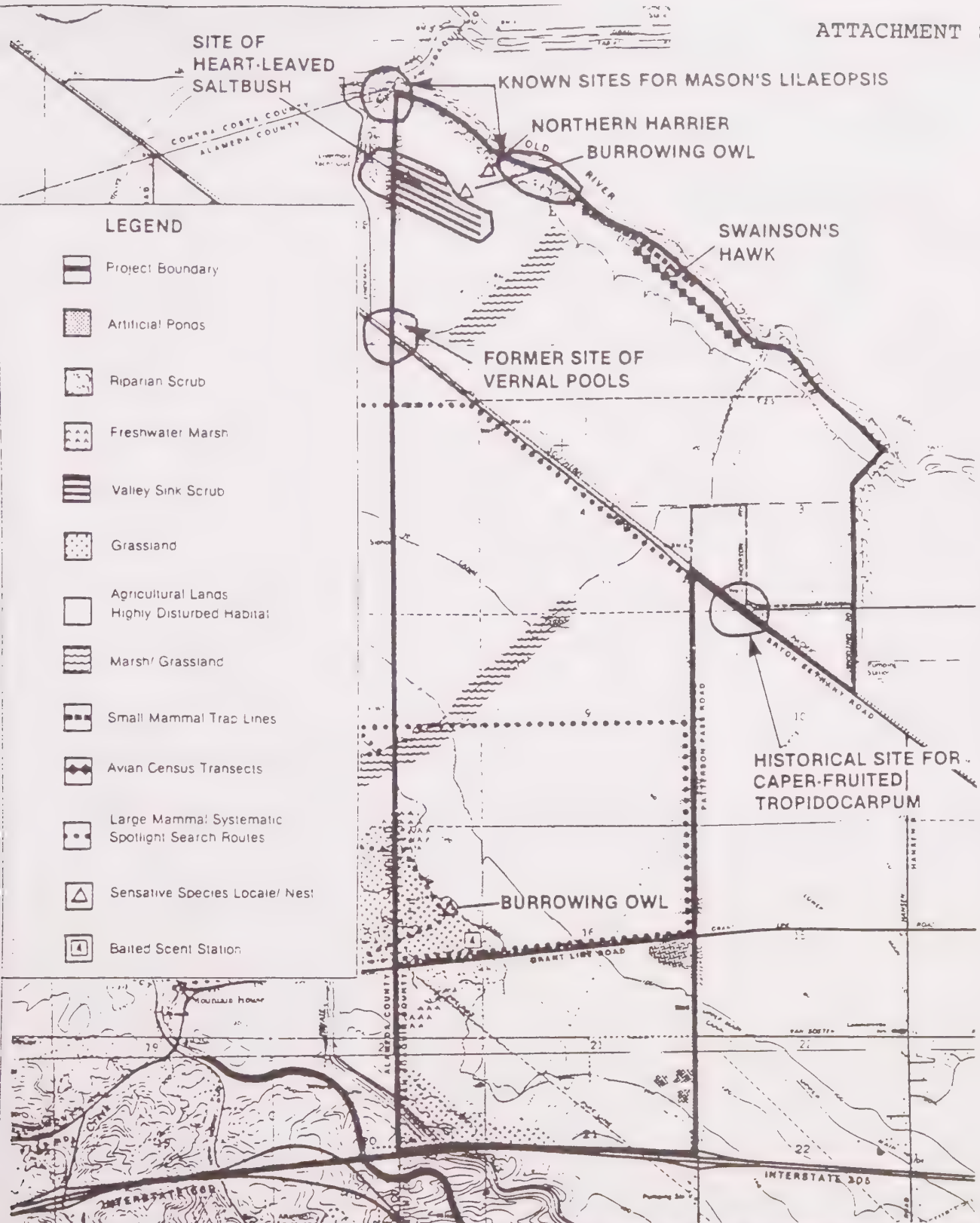
Developers
Land Planners
Environmental Planners
Traffic Planners
Civil Engineers

TRIMARK Communities
The SWA Group
EIP Associates
Korve Engineering, Inc.
R. W. Siegfried

N
↑

LAND USE

0 4000 1200 FT.



MOUNTAIN HOUSE NEW TOWN

SAN JOAQUIN COUNTY, CALIFORNIA

Developers
Land Planners
Environmental Planners
Traffic Planners
Civil Engineers

TRIMARK Communities
The SWA Group
EIP Associates
Korve Engineering, Inc.
R. W. Siegfried

N
↑

0 1000 3000 ft

VEGETATION AND
WILDLIFE (GENERAL
PLAN AMENDMENT AREA)

SAN JOAQUIN COUNTY PLANNING DIVISION

INITIAL STUDY (to be completed by project planner)

FILE #: GP-89-11, WC-90-6,7, & 8

PROJECT DESCRIPTION: General Plan Amendment and related Williamson Act Contract Cancellations for a new town to be called Mountain House.

RECOMMENDED ENVIRONMENTAL DETERMINATION:

The proposed project could not have a significant effect on the environment, and a Negative Declaration will be prepared. ☐

Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A Negative Declaration will be prepared. ☐

The proposed project may have a significant effect on the environment, an Environmental Impact Report is required ☒

ASSESSOR

PARCEL #: various GENERAL PLAN Agriculture ZONING: AG-40 acre minimum

CURRENT SITE CONDITIONS (topography, uses): Agriculture: row crops, dairy, scattered residential and farm buildings. The site slopes at 1% to the northeast from an elevation of 160'. Mountain House Creek runs northeast through the site. but is degraded due to farming and grazing.

SURROUNDING LAND USES: See Figure 3 (Land Use). Primarily agricultural with scattered residential, dairy, Delta Mendota Canal.

GENERAL CONSIDERATIONS:

1. Does it appear that any environmental feature of the project will generate significant public concern? (X) Yes. () No. (Use the Discussion section at the end of the form if more room is required.)

Nature of concern: The conversion of an agricultural area to urban, i.e., cancellation of Williamson Act Contract.

2. Will the project require approval or permits by other than a County agency? (X) Yes. () No.

Agency name(s): Caltrans, RWQCB, Fish & Game, Corps of Engineers and others

3. Is the project within the Sphere of Influence of any city? () Yes. (X) No. Name: Tracy approximately 6 miles east

ENVIRONMENTAL IMPACTS:

"Yes" may only be checked in situations where there is substantial evidence to indicate that there may be a significant impact on the environment if there is no change in the project description. (CEQA Guidelines, Sec. 15064)

See the Discussion section at the end of the Initial Study for explanation of any impacts checked "Yes."

	<u>Yes</u>	<u>No</u>
1. <u>Water:</u>		
a. Is any portion of the project within a Flood Hazard Area? What is the Flood Zone? <u>A2,A3,A16,A17</u> Panel 545	<u>X</u>	<u> </u>
b. Will the project result in reduction of surface or ground water quality or quantity?	<u>X</u>	<u> </u>
c. Will the project result in increased runoff or alteration to drainage patterns and streams?	<u>X</u>	<u> </u>
d. Will the project result in erosion of or sedimentation to a channel, river or body of water?	<u>X</u>	<u> </u>
2. <u>Earth</u> (consider the Seismic Safety Element, available geologic reports, etc.):		
a. Will the project result in or be subject to potentially hazardous geologic or soils conditions on or immediately adjoining the site (slides, springs, erosions, liquifaction, earthquake faults; slope, septic tank limitations)?	<u> </u>	<u>X</u>
b. Will the project involve substantial grading which could result in secondary impacts (consider amount, steepness, and visibility of proposed slopes; consider effect of grading on trees and creek channels)?	<u> </u>	<u>X</u>
c. Will there be conversion of agricultural land (consider prime farmland)?	<u>X</u>	<u> </u>
3. <u>Plant/Animal Life:</u>		
a. Will there be a reduction or disturbance to any habitat for plants and animals (including removal or disturbance of trees, riparian areas, or migration routes)?	<u>X</u>	<u> </u>

	<u>Yes</u>	<u>No</u>
b. Will the project impact any rare, endangered, or recreational species located on or near the site?	<u>X</u>	<u> </u>
4. <u>Air:</u>		
Will the project result in deterioration of existing air quality, including creation of objectionable odors; will future project residents be subjected to significant pollution levels?	<u>X</u>	<u> </u>
5. <u>Noise:</u>		
a. Will the project expose people to high noise or vibration levels?	<u>X</u>	<u> </u>
b. Will the project result in increased noise or vibration levels?	<u>X</u>	<u> </u>
6. <u>Energy/Natural Resources/Hazards</u> (consider the General Plan):		
a. Will the project result in any significant consumption of energy?	<u>X</u>	<u> </u>
b. Will the project affect the potential use, extraction, conservation, or depletion of a natural resource other than agricultural land?	<u> </u>	<u>X</u>
c. Will the project create a risk of explosion, release or exposure to hazardous substances, or other dangers to public health and safety?	<u> </u>	<u>X</u>
7. <u>Utilities and Public Service:</u>		
*a. Will the project require alteration of, addition to, or the need for utility systems - water, sewer, drainage, solid waste - including sphere of influence or district boundary change?	<u>X</u>	<u> </u>
*b. Will the project result in the need for or the expansion of the following services: fire and police protection, schools, parks and recreation, roads, flood control or other public works facilities, public transit, or governmental services?	<u>X</u>	<u> </u>
*"Yes" answers to these questions will require additional discussion, but do not necessarily indicate a potentially significant impact.		

Yes

No

c. Will the project affect recreational/park opportunities (consider the General Plan Recreation Element)?

X

8. Transportation/Circulation:

a. Will the project result in additional traffic volumes or an increase in circulation problems (consider road design, access, congestion, parking, and accident potential)?

X

*b. Will the project result in special transportation considerations (water-borne, rail, air, pedestrian, bicycle, or public transportation systems and parking facilities)?

X

c. Will the project result in an increase in commuting to and from the local community?

X

d. Will the project be impacted by or interfere with an airport flight path?

X

e. Will the project restrict access to the surrounding area?

X

9. Cultural Resources:

Will the proposal result in an alteration of a significant archeological or historical site, structure, or building?

X

10. Housing:

Will the proposal adversely affect the existing housing stock or create a demand for additional housing?

X

11. Aesthetics:

Will the project obstruct any public scenic vista or view, create an aesthetically offensive site open to public view, or produce new light or glare?

X

12. Land Use

a. Is this project a growth-inducing action (encourage additional requests for related uses), or will it set a precedent in the area?

X

b. Will the project conflict with existing or planned land uses?

X

Yes No

c. Will the project disrupt a natural or recreation area, impact access to waterways, allow trespass onto surrounding land?

X

d. Any other impacts? Potential conflicts w/current and proposed General Plan
Identify policies

13. Mandatory Findings of Significance (A "Yes" answer on any of the following questions requires preparation of an EIR.)

a. Does the project have the potential to degrade the quality of the environment or curtail the diversity in the environment?

X

b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?

X

c. Does the project have impacts which are individually limited but cumulatively considerable?

X

d. Does the project have environmental impacts which will cause substantial, adverse effects on human beings, either directly or indirectly?

X

DISCUSSION OF ENVIRONMENTAL IMPACTS NOTED ABOVE (include reference to substantial evidence on which determination was made or any discussion on changes to the project which would mitigate identified impacts):

See attached for discussion of all noted potential impacts.

PREPARED BY: Kitty Walker

DATE: July 12, 1990

Initial Study for GP-89-11
Discussion

The following listing refers the readers to the applicable sections of the attached "Project Description and Environmental Assessment" and Volume II-Technical Appendices, for a discussion of probable impacts. For those readers who do not receive these documents with the Initial Study, refer to the Notice of Preparation for a detailed description of impacts.

1.a.,b.,c.,d. Water:

See sections 2.5 and 4.5, and appendix I.

2.c. Conversion of Agricultural Land:

See section 2.2., section 2.3 (page 2-17, 2-21), section 2.4 (page 2-27), section 4.4, section 5.3, section 5.9, and appendix H.

3.a.,b. Plant/Animal Life:

See section 2.7, section 4.6, appendix A & B, and appendix 1 of the Expanded Area Supplement.

4. Air:

See section 2.10 and section 4.9.

5. Noise:

See section 2.9, section 4.10, and appendix K.

6.a. Energy:

This topic is not discussed in the supplementary material. The project will utilize significant amounts of energy during the construction and built stages. Energy consumption can be minimized through efficient land use planning and construction design. Specific mitigations should be incorporated into the EIR and Specific Plan.

7.a.,b. Utilities & Public Services:

See section 3.9, section 4.5 and section 4.7 also see appendix E and appendix B of the Technical Supplement for Police and Fire Services, appendix G for Library Services, and appendix F for Solid Waste Disposal.

7.c. Parks:

See section 3.9, pages 3-74 and 3-75.

8.a.,b. Transportation/Circulation:

See section 2.8, section 3.4, and section 4.2.

9. Cultural Resources:

See section 2.6, section 4.8, and appendix C.

10. Housing:

See section 3.7 (Phasing) and section 3.8 (Jobs-housing balance).

11. Aesthetics:

See Notice of Preparation discussion.

12. Land Use:

See section 4.11 (Growth Inducement) and Notice of Preparation discussion.

APPENDIX 10.2

NOTICE OF PREPARATION MAILING LIST

MOUNTAIN HOUSE
REFERRAL AND ADDRESS LIST

COUNTY AGENCIES & COMMISSIONS

San Joaquin County

SJC Board of Supervisors (all districts)
Attn: Joretta Hayde, Clerk of the Board
222 East Weber Avenue, Room 103
Stockton, CA 95202
468-2350

SJC Administrators Office
Attn: Rich Laiblin
222 East Weber, Room 711
Stockton, CA 95202
468-3211

SJC Counsel
Attn: Mike McGrew
222 East Weber, Room 711
Stockton, CA 95202
468-2980

SJC Public Works
Attn: Manuel Lopez
1810 East Hazelton Avenue
Stockton, CA 95205
468-3000

-Flood Control	-Engineering	-Environmental Coordinator
-Surveyors	-Solid Waste	

SJC Building Division
Attn: Jerry Herzick, Deputy Director
1810 East Hazelton Avenue
Stockton, CA 95205
468-3181

SJC Public Health Services, Environmental Division
Attn: Fred Kaufman
1601 East Hazelton Avenue
Stockton, CA 95205
468-3200

SJC Parks and Recreation
Attn: Pat Foran
4520 West Eight Mile Road
Stockton, CA 95209
953-8800

Mountain House
Referral & Address List
page 2

SJC Sheriff
Attn: Mike Essau
222 East Weber Avenue, Basement
Stockton, CA 95202
468-4271

SJC Agricultural Commissioner
Attn: Erwin B. Eby
1868 East Hazelton Avenue
Stockton, CA 95205
468-3300

SJC Animal Control
Attn: Paul Lewis
1868 East Hazelton Avenue
Stockton, CA 95205
468-3345

SJC Assessor
Attn: Ron Sugimoto
24 South Hunter, Room 303
Stockton, CA 95202
468-2630

SJC Emergency Services
222 East Weber Avenue, Room 610
Stockton, CA 95202
468-3962

SJC Fire Warden
Attn: Steve Innes, Fire Warden
222 East Weber Ave, Room 407
Stockton, CA 95202
468-3381

San Joaquin Council of Governments
Attn: Peter Verdoorn, director
1860 East Hazelton Avenue
Stockton, CA 95205
468-3913

UC Cooperative Extension
420 South Wilson Way
Stockton, CA 95205
468-2085

Mountain House
Referral & Address List
Page 3

SJC Agriculture Advisory Committee
C/O: Robert Cabral, Chairman
P. O. Box 1809
Stockton, CA 95201

SJC Farm Bureau Federation
Attn: Tyler Hammond
P. O. Box 8444
Stockton, CA 95204
931-4931

Delta Advisory Planning Council
C/O Contra Costa County Planning
651 Pine Street, 4th Floor, North Wing
Martinez, CA 94553

Alameda County

Alameda County Planning Department
Attn: Betty Croly, Deputy Planning Director
399 Elmhurst Street, Room 136
Hayward, CA 94544
(415) 670-5400

Alameda County Public Works Department
Attn: Ralph Johnson
Hayward, CA 94544
-Waste Management Authority -Engineering Geologist

Alameda County Counsel
Attn: Eric Chambliss
1221 Oak Street, Room 463
Oakland, CA 94612

Alameda County Board of Supervisors
1221 Oak Street, Room 536
Oakland, CA 94612

Alameda County Administrator's Office
1221 Oak Street
Oakland, CA 94612

Alameda County Farm Bureau
638 Enos Way
Livermore, CA 94550

Mountain House
Referral & Address List
Page 4

Alameda County Sheriff's Department
1225 Fallon Street, Room 103
Oakland, CA 94612

Alameda County Fire Patrol
Attn: Chief Ted Ferrera
1617 College Avenue
Livermore, CA 94550

Alameda County Agriculture Commissioner
Attn: Mike Green
224 West Winton, Room 184
Hayward, CA 94544
(415) 670-5232

Alameda County Agricultural Advisory Committee
Attn: Mike Green
224 West Winton, Room 184
Hayward, CA 94544
(415) 670-5232

Alameda County LAFCO
1221 Oak Street, Room 555
Oakland, CA 94612

Contra Costa County

Contra Costa County Planning Department
Attn: Dennis Barry
651 Pine Street, 4th Floor, North Wing
Martinez, CA 94553-0095
(415) 646-2035

Contra Costa County Department of Public Works
Attn: Roger Frost
255 Glacier Drive
Martinez, CA 94533

CITIES AND DISTRICTS

San Joaquin County

City of Tracy Planning Department
Attn: Barry Hand, Director
520 Tracy Boulevard
Tracy, CA 95376
836-2665

Tracy City Manager
325 East 10th Street
Tracy, CA 95376-4095

Tracy Public Schools
Attn: Tony Bernakis, Director of Facilities Planning
315 East 11th Street
Tracy, CA 95376-4095
831-5032

Tracy Rural Fire District
Attn: Gene Le Blanc, Chief
835 Central Avenue
Tracy, CA 95376
835-1883

Tracy Public Library System
1340 Holly Drive
Tracy, CA 95376

Lammersville School District
Attn: Ken Oldo, Superintendent/Mike Winters, Schl Dist Consultant
16555 West Von Sostan
Tracy, CA 95376

Mountain House School District
Route 1, Box 32-F
Byron, CA 94514

Stockton Public Library System
605 North El Dorado
Stockton, CA 95202

Byron-Bethany Irrigation District
P. O. Box 273
Byron, CA 94514
(415) 634-3534

Mountain House
Referral & Address List
Page 6

Alameda County

City of Livermore Planning Department
Attn: Robert Brown, Director
1052 South Livermore Avenue
Livermore, CA 94550

City of Pleasanton Planning
Attn: Brian Swift, Director
P. O. Box 520
Pleasanton, CA 94566

City of Dublin Planning
Attn: Laurence Tong, Director
6500 Dublin Boulevard, Suite D
Dublin, CA 94568

Alameda County Water District
43885 Grimer Boulevard
Fremont, CA

Alameda County Transit District
508 16th Street
Oakland, CA 94612

Zone 7 Flood Control & Water Conservation District
5997 Parkside Drive
Pleasanton, CA 94566

Contra Costa County

City of Brentwood
708 3rd Street
Brentwood, CA 94513

Contra Costa County Water District
Attn: Dennis Pisila, Utility Planner
P. O. Box H-20
Concord, CA 94524
(415) 674-8119

Concord-Buchanan Field
Attn: Pete Bargo
171 John Glenn Drive
Concord, CA 94520

REGIONAL AND STATE

State

State Department of Water Resources
Division of Flood Management
Attn: Chief of Operation & Maintenance
P. O. Box 388
1416 9th Street
Sacramento, CA 95802

Department of Water Resources
Division of Land & R-of-U
Property Management Branch
Attn: John Hornberger, Chief
P. O. Box 942836
Sacramento, CA 95836
(916) 445-9310

California Highway Patrol
3330 North Ad Art Road
Stockton, CA 95205

California Division of Forestry
Administrative Office
7650 Newcastle Road
Stockton, CA

State Department of Fish & Game
Attn: Bob Mapes & Sherry Teresa
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670
(916) 355-7030

State Office of Planning & Research
C/O State Clearinghouse-Lynn Coughlin
C/O Office of Permit Assistance-Bob King
1400 Tenth Street, Room 121
Sacramento, CA 95814
(916) 445-0613

State Department of Health Services-Environmental Health Division
Office of Drinking Water
714 P Street, Room 430
Sacramento, CA 95814

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Mountain House
Referral & Address List
Page 8

State Department of Housing & Community Development
921 10th Street, 5th Floor
Sacramento, CA 95814

State Air Resource Board
Attn: Sue Scott
1102 Q Street
Sacramento, CA 95814

State Lands Commission
Attn: Bill Northrup
1807 Thirteenth Street
Sacramento, CA 95814

State Department of Boating & Waterways
1629 S Street
Sacramento, CA 95814

State Resources Agency
Department of Conservation
Attn: Pat Gatt
1416 Ninth Street, Room 400
Sacramento, CA 95814

State Department of Food & Agriculture
1220 N Street
Sacramento, CA 95814

State Public Utilities Commission
Attn: Mike Burke
1107 9th Street, Suite 710
Sacramento, CA 95814

State Water Resources Control Board
901 P Street
Sacramento, CA 95814

Solid Waste Management Board
1020 Ninth Street, Room 300
Sacramento, CA 95814

State Department of Transportation
CALTRANS, District 10
Attn: Heidi McNally-Dial
P. O. Box 2048
Stockton, CA 95201
948-7936

Mountain House
Referral & Address List
Page 9

CALTRANS, District 4
Attn: Cecil Smith
P. O. Box 7310
San Francisco, CA 94102

Regional

Regional Water Quality Control Board-
Central Valley Region
3443 Routier Road
Sacramento, CA 95827-3098

East Bay Municipal Utilities District
P. O. Box 228
Stockton, CA 95201

ABAG
Metro Center
Attn: Yvonne San Jule
P. O. Box 2050
Eighth & Oak Streets
Oakland, CA 94604

FEDERAL

U. S. Department of Agriculture
Soil Conservation Service
1222 Monaco Court #23
Stockton, CA 95207

U.S. Department of Agriculture
Attn: Pat Gatt, Conservation
1516-9th Street, Rm 400
Sacramento, CA 95814

Army Corps of Engineers
650 Capitol Mall
Sacramento, CA 95814

U. S. Bureau of Reclamation
1) 2800 Cottage Way
Sacramento, CA 95825
2) P. O. Box 1209
Tracy, CA 95376
Attn: T-420

Mountain House
Referral & Address List
Page 10

U. S. Fish & Wildlife Service
2800 Cottage Way, Room E-1803
Sacramento, CA 95825

UTILITIES AND TRANSPORTATION

P G & E
Attn: S. V. Koop
P. O. Box 930
345 Channel Street
Stockton, CA 95202

PG & E
Attn: Jean Gunther
123 Mission Street, Room 2049
San Francisco, CA 94106
(415) 973-5772

Pacific Bell
Attn: Bill Chelseth
44 West Yokuts
Stockton, CA 95207

San Joaquin Mosquito Abatement District
P. O. Box 1835
Stockton, CA 95206

Union Pacific Railroad
50 Fremont, Suite 3200
San Francisco, CA 94105

Southern Pacific Transportation Company
1 Market Plaza
San Francisco, CA 94105

B. A. R. T.
Attn: Harley Goldstrom
800 Madison Street
Oakland, CA 94604-2688
(415) 464-6194

Stockton Metropolitan Transit District
15333 East Lindsay Street
Stockton, CA 95205

MEDIA

Tracy Press
145 West Tenth
Tracy, CA 95376

Stockton Record
530 East Market Street
Stockton, CA 95201

Oakland Tribune
224 West Winton, Room 170
Hayward, CA 94544

Valley Times
127 Springs Avenue
Pleasanton, CA 94566

The Herald
4770 Willow Road
Pleasanton, CA 94566

PUBLIC INTEREST GROUPS

San Joaquin County

Land Utilization Alliance
C/O John Eilers
21355 East Walnut Drive
Linden, CA 95236

Stockton Audubon Society
Attn: Kathy Schick
940 North Argonaut Street
Stockton, CA 95203

League of Women Voters
1107 North San Joaquin Street
Stockton, CA 95204

Sierra Club
P. O. Box 9258
Stockton, CA 95208

Santos Ranch Homeowners Association

State Assemblyman Phil Isenberg
Attn: Patricia Riello
625 West 4th Street, Room 4
Antioch, CA 94509

Mike Winters, Lammersville Consultant
511 Encinitas Boulevard, Suite 111
Encinitas, CA 92024

Mountain House
Referral & Address List
page 13

Alameda County

Sierra Club, East Bay Division
21 Anderson Circle
Walnut Creek, CA 94595

Alameda County Cattleman's Association
P. O. Box 458
Pleasanton, CA 94556

Greenbelt Alliance
116 New Montgomery
San Francisco, CA
(415) 543-4291

Livermore Yacht Club

Loretta Vos
328 Wayne Avenue
Oakland, CA 94606

INTERESTED CONSULTANTS

Eco Systems, Inc.
Attn: R. B. Swenson
147 South River Street, Suite 205
Santa Cruz, CA 95061

WESCO
Attn: Carolyn Cole
14 Galli Drive, Suite A
Novato, CA 94949

MWM Architects
Attn: Beth Jaffe
2333 Harrison Street
Oakland, CA 94612

Wade Associates
Attn: Pam Crook
2140 Professional Drive, Suite 140
Roseville, CA 95661

Harding Lawson Associates
Attn: Thomas Donnelly
7655 Redwood Blvd.
P.O. Box 578
Novato, CA 94948

Stephen L. Jenkins, Consultant
2001 11th Street
Sacramento, CA 95818

Valley Planning Consultants
Attn: Frederick Dunette
301 W. 18th Street, Suite 201
Merced, CA 95340

L.S.A.
Attn: Larry Kinningo
157 Park Place
Pt. Richmond CA 94801
415-236-6810

E.S.A.
ATTN: MARTY ABELL
301 Brannan St.
S. F., CA. 94107-1811
(415) 896-5900

OTHER

Dan Lundberg, Attorney
3045 Del Rio Boulevard
Stockton, CA 94204

Richard Zumwalt
C/O Otay Ranch Project
315 Fourth Avenue, Suite A
Chula Vista, CA 92010

Morrison Homes
Attn: Robert Miller
2255 Contra Costa Boulevard
Pleasant Hill, CA 94523

Prime Capital Development
Attn: Martin Freitas
35 East 10th Street, Suite B
Tracy, CA 95376

Adams & Broadwell
Attn: Lisa Strickland
P. O. Box 5049
1875 South Grant Street
San Mateo, CA 94402

California Homes, Inc.
Attn: Doug Mull
4655 Quail Lakes Drive
Stockton, CA 95207

Centex Homes
Attn: Will Leighton
597 Center Avenue, Suite 200
Martinez, CA 94553

Ron Loveday
Realtor
715 Winding Creek Terrace
Brentwood, CA 94513

PATRICK O'BRIEN
SASSCO REAL ESTATE
Box 1188
TRACY, CA 95378
835-9000

Preparers

Trimark Communities
Attn: Wm. Johnson/Ron Gross
3120 Tracy Boulevard, Suite C
Tracy, CA 95376
836-1560

The SWA Group - Land Planners
Attn: Calvin Platt/Elizabeth Shreeve
2200 Bridgeway Boulevard
Sausalito, CA 94965
(415) 332-5100

EIP Associates - Environmental Planners
Attn: Mark Trembley/Russ Faure-Brac
150 Spear Street, Suite 1500
San Francisco, CA 94105
(415) 546-0600

R.W. Seigried - Civil Engineers
Attn: Lynn Sutton
4045 Coronado Avenue
Stockton, CA 94204
943-2021

Korve Engineering Inc. - Traffic Engineers
Attn: H. Korve/S. Pickrell/M. Bates
180 Grand Avenue, Suite 955
Oakland, CA 94612
(415) 763-2929

Economics Research Associates - Economists
Attn: Bill Lee
1160 Battery Street, Suite 350
San Francisco, CA 94111
(415) 956-8152

Bruce W. Liedstrand - Governance
Attn: Bruce Liedstrand
47 Kearny Street, Suite 500
San Francisco, CA 94108
(415) 291-9640

Andal Communications Co. - Public Communications
Attn: Dean Andal
41 West Yokuts Avenue
Stockton, CA 95207
477-4914

Mountain House
Address & Referral List
Page 17

Neumiller and Beardslee - Attorneys
Attn: Tom Shepard/Tom Terpstra
P. O. Box 20
Stockton, CA 95201
948-8200

Baker and McKenzie - Attorneys
Attn: Tim Tosta/Steve Atkinson
2 Embarcadero Center
San Francisco, CA 94111
(415) 576-3000

The McCarty Company - Agriculture/Soils
Attn: Patrick McCarty/John Meek
1755 West Hammer Lane, Suite 12
Stockton, CA 95209
478-1957

Moffatt and Nichol, Engineers - Marina Consultant
Attn: Richard Dornhelm
3000 Citrus Circle, Suite 230
Walnut Creek, CA 94598
(415) 944-5411

Leedshill-Herkenhoff - Water Resources Engineers
Attn: Polly Boissevain
303 Second Street, Suite 880 North
San Francisco, CA 94107
(415) 243-9980

Kennedy/Jenks/Chilton - Environmental Engineers
Attn: David Yogi
Marathon Plaza, Tenth Floor North
303 Second Street
San Francisco, CA 94107
(415) 362-6065

NOP Distribution List

S = sent by lead agency

X = sent by SCH

Resources Agency

☒ Karen Eagle
Dept. of Boating & Waterways
1629 J Street
Sacramento, CA 95814
916/445-6281

☐ Gary L. Holloway
California Coastal Commission
641 Broadway Street, 4th Floor
San Francisco, CA 94105
415/555-0555

☐ Reed Childerman
State Coastal Conservancy
1330 Broadway, Suite 1100
Oakland, CA 94612
415/461-1085

☒ Dennis O'Bryen
Dept. of Conservation
1416 South Street, Room 1326-2
Sacramento, CA 95814
916/445-1873

☐ Div. of Mines and Geology
☐ Div. of Oil and Gas
☐ Land Resources Protect. Unit

☒ Douglas Wicklizer
Dept. of Forestry
1416 South Street, Room 1316-2
Sacramento, CA 95814
916/445-0128

☒ Hans Kautzberg
Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296-0001
916/313-9621

☐ Mike Temple
Dept. of Parks and Recreation
P.O. Box 942896
Sacramento, CA 94296-0001
916/313-6421

☐ Anna Leona Brannon
Reclamation Board
1416 South Street Room 706
Sacramento, CA 95814
916/313-1340

☐ Nancy Wakeham
S.P. by Conservation & Dev't. Comm.
30 Van Ness Avenue, Room 2011
San Francisco, CA 94102
415/577-3686

☒ Nadeh Gaynu
Dept. of Water Resources
1416 South Street, Room 215-4
Sacramento, CA 95814
916/445-1416

Fish and Game - Regional Offices

☐ Gary Stacey, Regional Manager
Department of Fish and Game
681 Locust
Redding, CA 96001
916/225-2300 (R 442)

☒ Jim Messersmith, Regional Manager
Department of Fish & Game
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670
916/355-0922 (R 438)

☐ B. Hunter, Regional Manager
Department of Fish and Game
P.O. Box 47
Yountville, CA 94599
707/944-5518

☐ G. Nokes, Regional Manager
Department of Fish and Game
1234 East Shaw Avenue
Fresno, CA 93710
209/222-3761 (R 421)

☐ Fred A. Worthley, Jr., Reg. Manager
Department of Fish and Game
330 Golden Shore, Suite 50
Long Beach, CA 90802
213/590-5113 (R 635)

Independent Commissions

☒ John R. Nuffer
California Energy Commission
1586 Ninth Street, MS-15
Sacramento, CA 95814
916/323-9180

☐ William A. Johnson
Native American Heritage Comm.
913 Capitol Mall, Room 288
Sacramento, CA 95814
916/322-7791

☒ George Hersh
Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
415/557-1375 (R 597)

☒ Ted Fukushima
State Lands Commission
1807 - 13th Street
Sacramento, CA 95814
916/322-7813

Business, Transportation, & Housing

☐ Sandy Hearnard
Caltrans - Division of Aeronautics
P.O. Box 942874
Sacramento, CA 94274-0001
916/324-1833

☒ Sgt. Jim Weddell
California Highway Patrol
Long Range Planning Section
Planning and Analysis Division
2555 First Avenue
Sacramento, CA 95818
916/445-1981

☐ George Smith
Caltrans - Planning
P.O. Box 942874
Sacramento, CA 94274-0001

Department of Transportation District Contacts

☐ Jo Sanford
Caltrans, District 1
1656 Union Street
Fureka, CA 95501
707/445-6671 (R 538)

☐ Michelle Gallagher
Caltrans, District 2
1657 Riverside Drive
Redding, CA 96001
916/225-3259 (R 442)

☐ Brian J. Smith
Caltrans, District 3
703 B Street
Marysville, CA 95901
916/741-4277 (R 457)

☒ Wade Green
Caltrans, District 4
P.O. Box 7310
San Francisco, CA 94120
415/557-9162 (R 597)

☐ Jerry Laumer
Caltrans, District 5
P.O. Box 8114
San Luis Obispo, CA 93403-8114
805/549-3161 (R 629)

☐ Lavon Fairchild
Caltrans, District 6
P.O. Box 12616
Fresno, CA 93778
209/276-5989 (R 422)

☐ Gary McSweeney
Caltrans, District 7
120 South Spring Street
Los Angeles, CA 90012
213/620-2376 (R 640)

☐ Harvey Sawyer
Caltrans, District 8
247 West Third Street
San Bernardino, CA 92403
714/383-4808 (R 670)

☐ Andy Zellman
Caltrans, District 9
500 South Main Street
Bishop, CA 94514
619/872-0693 (R 627)

☒ Al Johnson
Caltrans, District 10
P.O. Box 2048
Stockton, CA 95201
209/948-7838 (R 423)

☐ Jim Chesbire
Caltrans, District 11
P.O. Box 85406
2829 Juan Street
San Diego, CA 92138-5406
619/237-6755 (R 631)

☐ Chuck Limon
Caltrans, District 12
2501 Pullman St.
Santa Ana, CA 92705
714/724-2061 (R 655)

Food and Agriculture

☒ Vasek Cervinka
Dept. of Food and Agriculture
1220 N Street, Room 104
Sacramento, CA 95814
916/322-5227

Health & Welfare

☒ Quy Tu
Dept. of Health
714 P Street, Room 1253
Sacramento, CA 95814
916/323-6111

HHS/TSCD:

☐

State and Consumer Services

☐ Robert Sleppy
Dept. of General Services
400 P Street, Suite 3460
Sacramento, CA 95814
916/324-0214

Environmental Affairs

☒ Bob Fletcher
Air Resources Board
1102 Q Street
Sacramento, CA 95814
916/322-8267

☐ Jeannie Blakeslee
Calif. Waste Management Board
1020 Ninth Street, Room 300
Sacramento, CA 95814
916/327-0454

State Water Resources Control Board

☐ Allan Patton
State Water Resources Control Board
Division of Loans & Grants
P.O. Box 944212
Sacramento, CA 94244-2120
916/339-4414

☐ Dave Berlinger
State Water Resources Control Board
Delta Unit
P.O. Box 2000
Sacramento, CA 95810
916/322-9870

☐ Ed Anton
State Water Resources Control Board
Division of Water Quality
P.O. Box 100
Sacramento, CA 95801
916/445-9552

☐ Mike Falkenstein
State Water Resources Control Board
Division of Water Rights
908 P Street
Sacramento, CA 95814
916/324-5636

☐ AISC/AQMD

SCH# 00020460

Regional Water Quality Control Board

☐ NORTH COAST REGION (1)
1440 Churchillville Rd.
Santa Rosa, CA 95401
707/576-2220 (R 590)

☐ SAN FRANCISCO BAY REGION (2)
1111 Jackson Street, Room 6000
Oakland, CA 94607
415/864-1255 (R 561)

☐ CENTRAL COAST REGION (3)
1102-A Laurel Lane
San Luis Obispo, CA 93401
805/549-3147 (R 629)

☐ LOS ANGELES REGION (4)
101 Center Plaza Drive
Monterey Park, CA 91754
213/620-4460 (R 640)

☒ CENTRAL VALLEY REGION (5)
3443 Roubier Road, Suite A
Sacramento, CA 95827-3098
916/361-5600

☐ Fresno Branch Office
3614 East Ashlan Avenue
Fresno, CA 93726
209/445-5116 (R 421)

☐ Redding Branch Office
100 East Cypress Avenue
Redding, CA 96002
916/224-4845 (ATS 441)

☐ LAHONTAN REGION (6)
2092 Lake Tahoe Boulevard
P.O. Box 9428
South Lake Tahoe, CA 95731
916/544-3481

☐ Victorville Branch Office
15428 Civic Drive, Suite 100
Victorville, CA 92392-2359
619/241-6583

☐ COLORADO RIVER BASIN REGION (7)
73 271 Highway 111, Suite 21
Palm Desert, CA 92260
619/346-7491

☐ SANTA ANA REGION (8)
6809 Indiana Avenue, Suite 700
Riverside, CA 92506
714/782-4130 (R 632)

☐ SAN DIEGO REGION (9)
9771 Clairemont Mesa Blvd., Suite B
San Diego, CA 92124-1331
619/765-5114 (R 636)

☐ OTHER:

☐

☐

☐

☐ OTHER:

☐

APPENDIX 10.3

LETTERS SENT IN RESPONSE TO NOTICE OF PREPARATION

Letters in Response to the Notice of Preparation for the Mountain House New Town EIR

page

FEDERAL AGENCIES

U.S. Department of the Interior	10.3-3
---------------------------------------	--------

STATE AGENCIES

State Lands Commission	10.3-4
Department of California Highway Patrol	10.3-9
Department of Transportation	10.3-10
Department of Fish and Game	10.3-13
Department of Conservation	10.3-17
Department of Water Resources	10.3-24
Department of Health Services	10.3-27
Department of Boating and Waterways	10.3-28
California Integrated Waste Management Board	10.3-29

COUNTY AGENCIES

San Joaquin County Sheriff's Department	10.3-31
San Joaquin County Council of Governments	10.3-43
San Joaquin County Air Pollution Control District	10.3-47
San Joaquin County Mosquito Abatement District	10.3-51
San Joaquin County Office of Emergency Services	10.3-53
San Joaquin County Department of Public Works	10.3-55
Alameda County Public Works Agency	10.3-58
Alameda County Sheriff's Department	10.3-60
Contra Costa County Community Development Department	10.3-61
Stanislaus County Department of Environmental Resources-Air Pollution Control District	10.3-63

SPECIAL DISTRICTS

Lammersville School District	10.3-64
Contra Costa Water District	10.3-65
Bay Area Air Quality Management District	10.3-67
Tracy Public Works	10.3-69

CITIES

City of Tracy	10.3-71
---------------------	---------

PRIVATE COMPANIES

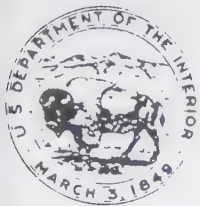
Pacific Gas and Electric Company	10.3-73
--	---------

INTEREST GROUPS

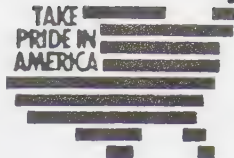
Delta-Sierra Group: Mother Lode Chapter of Sierra Club	10.3-75
--	---------

INDIVIDUALS

Raymond A. Andresen	10.3-77
Judith A. Bianci-Burick	10.3-79
Pat Bond	10.3-80
Mr. and Mrs. C.D. Hurley	10.3-82
Hiram A. Sibley	10.3-83
Sam C. Trager	10.3-85



United States Department of the Interior



BUREAU OF RECLAMATION
MID-PACIFIC REGION
TRACY OFFICE (CVP)
ROUTE 1 BOX 35
BYRON CALIFORNIA 94514-9614

IN REPLY
REFER TO:

TO-444
LND-1.00

AUG 27 1990

RECEIVED

AUG 30 1990

Ms. Kitty Walker, Senior Planner
San Joaquin County Department of
Planning and Building Inspection
1810 E. Hazelton Avenue
Stockton CA 95205

SAN JOAQUIN COUNTY
PLANNING DIVISION

Subject: Request for Comments -- Environmental Impact Report No. ER-91-1
Mountain House New Town -- San Joaquin County -- Delta-Mendota Canal
-- Central Valley Project (CVP) CA (Realty Policy)

Dear Ms. Walker:

This is in response to your letter dated July 31, 1990, requesting our comments on the subject project. Our comments are as follows:

1. The Bureau of Reclamation's (Reclamation) intake structure for transport of water through the Delta-Mendota Canal (Canal) is located on the Old River at the Northwest corner of the proposed development. The Canal is being used to provide municipal/industrial/irrigation water for portions of San Joaquin, Alameda, Stanislaus, Merced, Fresno, Kings, Santa Clara, San Benito, Monterey and Santa Cruz Counties. Reclamation finds unacceptable the proposed discharge of treated wastewater and storm water runoff from residential/commercial/industrial development into Old River. The quality of water in the DMC may be compromised due to operational errors at sewage treatment facilities and/or uncontrolled releases of inadequately treated sewage effluent. Also, urban surface runoff will contain certain pollutants. As municipal entities draw their water from the DMC, there must be assurance that pollutants and or water borne disease will not enter the DMC. Should the DMC become contaminated from an unknown source, Reclamation could be liable.

2. As there will be development adjacent to the DMC's right-of-way which would create pedestrian, equestrian, and bicycle traffic, a suitable fence should be required to prevent any accidents or unauthorized trespass. We would prefer a fence or wall that would prohibit the easy installation of gates.

If you have any questions, please contact Ed Taylor of my staff at (209) 836-6238.

Sincerely,

J. Paul Capener
Acting Project Superintendent

STATE LANDS COMMISSION

LEOT. McCARTHY, *Lieutenant Governor*
GRAY DAVIS, *Controller*
JESSE R. HUFF, *Director of Finance*

EXECUTIVE OFFICE
1807 - 13th Street
Sacramento, CA 95814
CHARLES WARREN
Executive Officer

September 12, 1990

RECEIVED

SEP 14 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Kitty Walker, Senior Planner
San Joaquin County Department of
Planning and Building Inspection
1810 E. Hazelton Avenue
Stockton, CA 95205

RE: RESPONSE TO NOTICE OF PREPARATION
ENVIRONMENTAL IMPACT REPORT NO. ER-91-1
MOUNTAIN HOUSE NEW TOWN, SAN JOAQUIN COUNTY

Dear Ms. Walker,

Staff of the State Lands Commission has reviewed the Notice of Preparation (NOP) for the Environmental Impact Report (EIR) (ER-91-1) on Mountain House New Town. The EIR should address the following issues:

1. The State Lands Commission manages the Public Trust resources in the Old River north of the proposed project as well as the public rights which stems from its navigable character and public use within that portion of the Old River along the boundaries of the proposed project. As a Trustee Agency under the provisions of the California Environmental Quality Act (CEQA and Guidelines, section 15386, 15082, 15086), the Commission must rely on the analysis within the EIR.
2. The affected reaches of the Old River should be described in terms of its natural history, function, use and value. The effects of human activity to date should be described.
3. Wetland and riparian vegetation should be inventoried, identified and the general health of the such vegetation described.
4. The project description should include a public access river program for the River, as required by the provisions of the Subdivision Map Act (Government Code section 66478.1 et seq.) including a staging area (for hikers and bicyclist), launch site, fishing site and public parking and a mitigation and management program for the effects of this public access.

Mt. House NOP.ep

5. The carrying capacity for the designated portion of Old River should be identified. Elements of the carrying capacity should include the effect of boating activity on biological habitat, water quality and river bank stability. Boating activity should include comparable surveys of marinas, current activity, trends and probable development in boat size in order to assess the different effects of less than twenty foot boats and boats twenty feet and greater. Additional effects of boating activity should include mooring and access from the river onto public trust easements with potential harm to biological habitat and river bank stability.
6. The effects of a commercial marina on water quality including the effects of boat discharges, commercial/urban runoff and other non point source pollution should be identified.
7. The effects of a commercial marina on biological habitat should be assessed including the following elements: disturbed habitat, noise, light, dust, pedestrian and motorized trespassing on habitat, litter and changed hydrology.
8. An alternative - not the no project alternative - should discuss river bank riparian restoration, upland habitat restoration and preservation, e.g. multiple function of agricultural land including waterfowl habitat enhancement.
9. The alternative site discussion should include sites in agricultural areas where selenium and other soil and water problems exist, but where there is a water delivery infrastructure in place. These sites have a estimated productive life which should be compared to the project site. Water treatment and water cost should be noted for this alternative site in order to provide the decision makers substantial evidence for comparing project prime farmlands to other agricultural sites.
10. Flood control mitigation measures should discuss potential greenhouse effects. Elements in the discussion should include the effectiveness of a wetlands mitigation program in the event of global warming. This project site should be assessed in terms of its potential role in estuarine system management (San Francisco Bay/Delta) in consideration of existing trend of rising sea levels.
11. The introduction of exotic, non indigenous landscape plants and the effects on remnant upland vegetation,

wetland vegetation and all effects on the landscape ecology should be discussed. Elements of the discussion should include the on-site effects as well as the off-site effects.

12. A comprehensive mitigation monitoring plan including elements of financing, scheduling, responsibility, reporting and enforcement should be discussed in order that the decision makers have an opportunity to consider the collective mitigation programs and cost and feasibility. For instance, a market study should identify the ability to assess an impact fee for the purchase of development rights or fee title to agricultural lands to fully mitigate the conversion of agricultural lands. The financing carrying capacity of the development should be identified. The market value of the target agricultural lands for preservation should be identified. From this analysis, a purchase/transfer of development rights program to mitigate the conversion of agricultural lands should be identified. A similar methodology should be identified for wetland and upland habitat required to sustain a wetland community.
13. The cumulative impact discussion should include a discussion of the project's overall aesthetic effect on the Delta viewshed and the functions and values of this viewshed for existing residents and visitors to the Delta.
14. The NOP should consider, but not be limited to, the following acts, policies, plans, regulations and guidelines:

The Water Quality Act of 1987, The Clean Water Act (Section 404) and related section in Title 33 (Sections 1151 through 1414)

The Rivers and Harbors Act of 1899.

The Migratory Bird Conservation Act. (16 USC 715-715s.)

The Migratory Bird Treaty Act. 16 USC 703 et seq.)

The North American Wetlands Conservation Act. 1989. 16 USC.

The Estuary Protection Act. 16 USC 1221-1226.

Public Law 97-98; Land Use and Site Assessment (LESA)

Mt. House NOP.ep

Byron-Bethany Irrigation District: contract and relationship to Bureau of Reclamation.

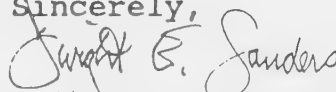
California Department of Conservation, Soil Conservation Advisory Committee, "A Plan for Soil Conservation", 1987

California Department of Fish & Game/U.S. Fish & Wildlife Service. Sacramento-San Joaquin Delta Wildlife Habitat Protection & Restoration Plan. December 1980. (Madrone Associates)

Draft San Joaquin County General Plan 2010. June 1, 1989.

Thank you for this opportunity to comment on the proposed project. We look forward to our review of the Draft EIR. Should you have any questions or require additional clarification, please contact me at (916) 322-6877.

Sincerely,



Dwight E. Sanders, Chief
Division of Research
and Planning

cc: Charles Warren, Executive Officer
Lance Kiley, Chief, Division of Land Management
and Conservation
Robert C. Hight, Chief Counsel

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL



TRACY AREA
P.O. Box 1088
385 W. Grantline Road
Tracy, Ca. 95376
(209) 835-8920

RECEIVED

September 6, 1990

SEP 7 1990

File No. 266.4560.A06244

SAN JOAQUIN COUNTY
PLANNING DIVISION

Kitty Walker
San Joaquin County
1810 E. Hazelton Avenue
Stockton, CA 95205

Dear Ms. Walker,

The following information is submitted regarding the Mountain House New Town Project per your request.

The California Highway Patrol is obviously concerned with highway safety, law enforcement and service to the public. Therefore, comments are limited to concerns in these areas.

A project of the Mountain House New Town magnitude will have a significant impact on highways within and adjacent to the project. Management and regulation of traffic associated with Mountain House with present Tracy Area staffing would not be feasible. The crime rate associated with an estimated community of 28,800 population will also create crime prevention problems.

The EIR estimates that 93,000 daily trips will be added to County/State highways connected to the project. Many of these roadways would need repair/improvement to handle the additional traffic counts. These improvements should be borne by the development. Both 205 and 580 will be impacted daily. Both Cal Trans and San Joaquin County Department of Public Works should make recommendations regarding associated repairs improvements to roadways and associated costs.

It is understood a Community Service District (CSD) will be formulated and that law enforcement/traffic control contracted. By policy, the Department will not provide its services for more than one year from the date of incorporation or formation of a CSA.

Traffic enforcement, accident prevention, and traffic control is a special form of law enforcement that takes training to perform. If this service is contracted it is essential that the agency is

properly trained to perform the duties. Millions of dollars can be awarded to victims when an accident/incident is not handled properly.

Regardless of project needs, the Tracy office of the California Highway Patrol would require 5 additional uniform officers to properly manage additional traffic outside of the project.

Any questions regarding this response should be direct to Officer Ken Milligan, (209) 835-8920.

Yours truly,

A handwritten signature in dark ink, appearing to read "M.S. Root", with a stylized flourish at the end.

M.S. ROOT, Lieutenant
Commander
Tracy Area

DEPARTMENT OF TRANSPORTATION

P.O. BOX 2048 (1976 E. CHARTER WAY)
STOCKTON, CA 95201
TDD (209) 948-7853



(209) 948-7838

August 31, 1990

RECEIVED

SEP 6 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Ms. Kitty Walker
San Joaquin County
Department of Planning
1810 East Hazelton Avenue
Stockton, CA 95205

10-SJ-205-1.38
(Patterson Pass Road O.C.)
San Joaquin County
Mountain House New Town
Notice of Preparation
of an EIR - ER91-1

Dear Ms. Walker:

Caltrans has reviewed the Environmental Assessment and Notice of Preparation (NOP) of an EIR for the Mountain House New Town Project. As noted in these documents, a variety of transportation facilities in the area of Mountain House (MH) will be impacted by the proposed project. The Draft EIR will need to contain many of the items provided in the Project Description and Environmental Assessment (EA).

We agree with the discussion on Page 4-21 of the EA concerning the need for a detailed traffic study which will apparently be included in the DEIR prepared for the County. We also agree that the "Project" traffic model should be based on the latest SJ COG model data.

Caltrans is specifically concerned about the impacts on off-site roadways, and in particular how MH generated traffic will affect the Level of Service (LOS) on State highways I-5, I-205, I-580, Route 4 and Route 120. We are also obviously concerned about the MH impacts on the various State highway interchanges and intersections.

The detailed traffic study/analysis should include, but not be limited to:

- Existing traffic volumes on roadways which will provide access to and from MH, expressed in terms of AADT and peak hour/peak direction (a.m. & p.m.), including turning movements at key intersections.
- An estimate of MH generated traffic and the distribution of that traffic based on recognized trip generation rates and the MH traffic model. Trip generation must be based on the expanded MH area of 4,667 acres, not the 3,788 acres on which the EA assumptions were made.
- Projected traffic volumes including MH and existing traffic using 2010 as the horizon year. These volumes would be expressed in the same AADT and peak hour/peak direction terms, again including key intersections.
- Projected year 2010 cumulative traffic volumes, including through traffic from outside of the study area. Cumulative volumes should also include all other proposed developments which could impact area roadways, including any recent proposals.

- An evaluation of MH impacts on the LOS of all off-site roadways, both roadway segments and key intersections.
- A discussion which recommends roadway improvements necessary to mitigate MH impacts. This discussion should also include funding responsibilities and mechanisms for needed improvements. A phasing strategy is also necessary to ensure that roadway improvements are in place prior to degradation of traffic LOS to an unacceptable level.

The EA contains numerous references to the jobs-housing balance which may ultimately exist in MH, and how this parity will actually improve future traffic conditions on many area roadways. However, the EA also contains many contradictions to this theory, with suggestions that MH will help to provide needed housing for people employed in the East Bay/Tri-Valley area.

Recent studies of home buyers in new subdivisions in both Stanislaus and San Joaquin Counties would seem to indicate a substantial percentage of MH buyers will be commuting over the Altamont Pass. These studies have consistently shown high percentages of workers commuting to job sites in the East Bay and Tri-Valley areas. With its closer proximity to these job sites, it could be assumed that MH would be even more attractive to these home buyers.

While the self-contained community concept sounds great in theory, the "ideal" of the MH work force (or major portion thereof) being employed within MH is unlikely to occur "in the real world." Since future MH residents cannot be required to work in the New Town, it seems unrealistic to assume that greater than 60% of the MH work force will work within MH (per EA).

This means that the assumption of 52 percent of trips generated by MH remaining within MH is likely high (Page 4-26 of EA). Conversely, the trips MH would generate on off-site roadways would likely be higher than the 48 percent shown on Table 4.2-1. We also have serious concerns about the distribution of off-site traffic shown on Table 4.2-1, and would expect that the traffic study and DEIR would justify all distribution assumptions. We would definitely question the seemingly low 13 percent to and from the west via Altamont Pass.

The EA document contains a number of references to possible MH contributions to interchange and freeway ramp improvements, with no apparent perception that mainline freeway/state highway impacts will also require mitigation. With the expanded area of MH, well over 200,000 daily vehicle trips will be generated and it should be quite obvious that this additional traffic will result in considerable degradation of certain area roadways.

The DEIR must address all impacts and needed mitigations, including mainline freeways. Statements such as that contained in the second paragraph on Page 4-32 are unacceptable for addressing mainline impacts and necessary mitigations.

Regardless of the hoped for jobs-housing balance, a significant number of the residents of this development will be employed in "out of the immediate area" locations. The DEIR should discuss and propose a commute management program such as that contained in the EA. Park and Ride lots should be identified early on in the process as a mitigation measure for reducing traffic congestion in the commuter corridors.

WALKER

Page 3

August 31, 1990

We would suggest that a DEIR "Traffic and Circulation" scoping session be held after the DEIR consultant has been selected. Possible participants could be Caltrans Districts 10 and 4, San Joaquin County, SJ COG and the consultant. This session would provide an opportunity to agree on the basic traffic assumptions and approach to preparing the "Circulation" section of the DEIR. This would hopefully minimize subsequent review time as the Mountain House New Town project works its way through the various processes.

An attachment to this letter will be transmitted under separate cover. This attachment will consist of specific comments on various pages of the EA, by page number.

Thank you for the opportunity to comment on the NOP. We look forward to working with you as the EIR work progresses on this project. Any questions regarding this review may be directed to me at the above noted number.

Sincerely,



For/ AL JOHNSON
IGR Coordinator

cc: P Verdoorn

Mike Root, Commander
CHP - Tracy
P.O. Box 1088
385 W. Grantline Road
Tracy, CA 95376

DEPARTMENT OF FISH AND GAME

BOX 2

NIMBUS ROAD, SUITE A

ECHO CORDOVA, CALIFORNIA 95670

(415) 355-7020

RECEIVED

SEP 10 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

September 7, 1990



Ms. Kitty Walker, Senior Planner
San Joaquin County Department of
Planning and Building Inspection
1810 East Hazelton Avenue
Stockton, CA 95205

Dear Ms. Walker:

The Department of Fish and Game (DFG) has reviewed the Notice of Preparation of a Draft Environmental Impact Report (EIR) for the Mountain House project. The project is located five miles northwest of Tracy, San Joaquin County. The project consists of a General Plan Amendment and related Williamson Act cancellations covering a 4,667-acre area. The underlying project is a 3,788-acre "New Town" which includes: 10,128 residential dwelling units, light industry, office space, shopping center, town center, schools, parks, a golf course, and a marina/boat harbor/restaurant.

Wildlife habitat consists of a large area of agricultural lands which abut the Old River on the north and rolling annual grasslands to the west. Habitat within the agricultural lands consists of alfalfa pastures and lesser amounts of row crops, such as corn. Within the agricultural lands there are scattered areas of habitat diversity. This would include groves of native or exotic trees, natural streams (Mountain House Creek), and wetlands. The Draft EIR should discuss and provide mitigation for the following:

1. The project's impact upon fish and wildlife and their habitat. The Initial Study states that the wildlife impacts of this project "will be minimal" due to the disturbed nature of the agricultural lands which makeup the majority of the project site. The DFG finds that agricultural lands provide essential habitat for many species of wildlife which persist in the Central Valley. Migratory birds, as well as, many species of resident birds and mammals have adapted to agricultural habitats. The change from agricultural to urban land use causes a net decrease in wildlife habitat quality and quantity. The Draft EIR should address the impact upon fish and wildlife and all their habitats within the project site.

2. The project's impact on State- or Federally-listed Rare, Threatened, or Endangered species and Species of Special Concern. The project has the potential to affect several species of sensitive plants and animals. This would include, but is not limited to the following species:

- Swainson's hawk (Buteo swainsoni)
- Prairie falcon (Falco mexicanus)
- Aleutian Canada goose (Branta canadensis leucopareia)
- Burrowing owl (Athene cunicularia)
- San Joaquin pocket mouse (Perognathus inornatus inornatus)
- San Joaquin Kit Fox (Vulpes macrotis mutcia)
- Giant garter snake (Thamnophis couchi gigas)
- California tiger salamander (Ambystoma tigrum californiense)
- Red-legged frog (Rana aurora draytoni)
- Western pond turtle (Clemmys marmorata pallida)
- Valley elderberry longhorn beetle (Desmocerus californicus dimorphus)
- Curved-foot Hygrotus diving beetle (Hygrotus curvipes)
- Large flowered fiddleneck (Amsinckia grandiflora)
- Diamond petaled California poppy (Eschscholtzia rhombipetala)
- Diablo rock rose (Helianthella castanea)
- Caper fruited tropidocarpum (Tropidocarpum capparideum)

Surveys for sensitive species should be contained in a separate appendix in the Draft EIR. The appendix should include the following information for each species: survey methods, dates and time of survey, and the area surveyed. Sensitive species surveys should be conducted in all the suitable habitat within, and adjacent to the project site. Also, surveys for sensitive species must be conducted during the appropriate time of year.

If sensitive species are located on the project site, then the Draft EIR should provide a mitigation plan which avoids the impacts to the subject species or reduces the impacts to an insignificant level.

3. The project's impact on unique habitat types such as wetlands, vernal pools, riparian habitat, oak groves, etc. The Draft EIR should discuss direct on-site impacts and indirect off-site impacts. This would include the cumulative impacts related to increased boat traffic generated by the proposed marina. The Draft EIR should address the impacts on wetlands and riparian habitat in the surrounding Delta which could be reasonably attributed to the proposed marina.

September 7, 1990

Regarding wetlands, the DFG recommends the project be designed so that any impacts to wetlands are avoided. If impacts to wetlands cannot be avoided, mitigation should be provided that is based upon the concept of no net loss of wetland habitat values or acreage.

4. The project's growth inducing and cumulative impacts and their long term effect on fish and wildlife. This project, in addition to bringing in 28,000 new residents, has the potential to be the keystone of a transfer of housing densities from the Bay Area to the Central Valley. The project will necessitate the expansion of the existing Highway 205 and 580 transportation corridors, as well as, expanded BART service and the creation of new highway facilities. These transportation projects will, in-turn, open the way for even greater conversions of agricultural lands to urban development with attendant increased impacts for fish and wildlife. The Draft EIR should address the potential for growth inducing impacts and provide means to avoid or mitigate their impact.
5. The project's impact on water quality and quantity in Old River. The proposed marina has the potential to seriously degrade the water quality of Old River and connecting waterways. The Draft EIR should contain a water management plan which addresses the issues of water quality affected by the proposed marina, as well as, storm drain and other project generated runoff waters.

The applicant should be advised that work within the 100-year flood plain, consisting of but not limited to diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream, or lake, will require notification to the DFG as required by Fish and Game Code Section 1600 et seq. The notification (with fee), and subsequent agreement, must be completed prior to initiating any such work. Notification to the DFG should be made after the project is approved by the lead agency. The agreement process should not be used in lieu of specific mitigation measures to be included as conditions of project approval by the lead agency.

In order to comply with Public Resources Code Section 21081.6, a detailed monitoring program must be developed for all required mitigation conditions. The monitoring program should include the following:

- a. Specific criteria to measure effectiveness of mitigation.

Ms. Kitty Walker

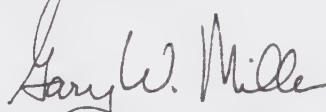
September 7, 1990

- b. Annual monitoring for a minimum of five years. Annual written reports submitted to the lead agency and the DFG.
- c. Annual monitoring reports, each of which include corrective recommendations that shall be implemented in order to ensure that mitigation efforts are successful.

Pursuant to Public Resources Code PRC Sections 21092 and 21092.2, the DFG requests written notification of proposed actions and pending decisions regarding this project. Written notifications should be directed to this office.

The DFG looks forward to reviewing the Draft EIR when it is prepared. If we can be of further assistance, please contact Mr. Bob Mapes, Associate Wildlife Biologist, or Ms. Patricia Perkins, Wildlife Management Supervisor, telephone (916) 355-7010.

Sincerely,



jm James D. Messersmith
Regional Manager

ARTMENT OF CONSERVATION

ON OF ADMINISTRATION
ON OF MINES AND GEOLOGY
ON OF OIL AND GAS
ON OF RECYCLING

SEP 10 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

1416 Ninth Street
SACRAMENTO, CA 95814
TDD (916) 324-2555
ATSS 454-2555

September 4, 1990

(916) 445-8733

Ms. Kitty Walker
San Joaquin County
1810 E. Hazelton Avenue
Stockton, CA 95205

Dear Ms. Walker:

Subject: Notice of Preparation (NOP) of a Draft Environmental
Impact Report (EIR) for the Mountain House New Town
Project, ER-91-1, SCH# 90020776

Thank you for forwarding the NOP for the Mountain House New Town General Plan Amendment for San Joaquin County. The project is located in the western portion of San Joaquin County, adjacent to Alameda County, between Highway I-205 on the south and the Old San Joaquin River on the north. According to the project description, the project will develop a new community, Mountain House, on a 4,667-acre site. The Department of Conservation's Division of Mines and Geology (DMG) has special expertise in evaluating geologic and seismic hazards, as well as mineral resource issues. We will review the relevant information and analysis, when we receive your subsequent documents from the State Clearinghouse.

The Draft EIR should include a complete description of the geologic and seismic environment. DMG Note 46, "Guidelines for Geologic/Seismic Considerations in Environmental Impact Reports", and DMG Note 43, "Recommended Guidelines for Determining the Maximum Credible and the Maximum Probable Earthquakes", are enclosed. These documents may aid in the determination of potential impacts from earthquakes on nearby active faults, and other geologic hazards on the project.

The geologic and seismic environment in the vicinity of the project includes active faults, zones of soil liquefaction, areas of potential inundation and subsidence, and expansive soils, as discussed below.

1. The Draft EIR should assess the potential for ground shaking from seismic events on nearby faults. The most likely sources of strong ground shaking to the project site are from seismic events on the San Andreas, Hayward, Calaveras, Antioch, Midway, Midland, San Joaquin, and Greenville Fault Zones (San Joaquin County Seismic Safety Element). Seismic

events on these faults may produce ground shaking at the project site that significantly exceeds the 0.10g anticipated by the General Plan Amendment. Historic earthquakes have produced ground shaking as high as Intensity VII in the area of Tracy (Toppozada, 1981, 1982). Recent studies suggest that a 375-mile long zone of complex faulting occurs on the boundary between the Coast Ranges and the Great Valley, and is the source of moderate to large historical earthquakes (Wong and others, 1988; Wong and Biggar, 1989). This fault zone, the Coastal-Sierran Block Boundary Zone, trends generally north-south approximately 3 miles west of the project site. This fault zone may be capable of producing magnitude 6-3/4 earthquakes, similar to the 1983 Coalinga earthquake, and was the probable source of the two 1892 Winters earthquakes of magnitude 6-1/2 (Wong and others, 1988; Bennett, 1987). Because of the proximity of the project to active faults, the Draft EIR should address hazards related to earthquake shaking, including estimates of ground acceleration at the project site, the duration of strong shaking, the potential for amplification of ground motion, and the potential for seismic settlement. Data to support the analysis should be appended to the Draft EIR. If mitigation measures are needed, they should be developed for inclusion in the Draft EIR so that they can be reviewed.

2. The northern portion of the project site lies adjacent to an area identified in the San Joaquin County Safety Element (Exhibit II-8) as having a potential for liquefaction. There is insufficient data to determine the potential for liquefaction on the project site. Liquefaction at the project site would cause a significant impact to the existing and proposed structures and levees. Therefore, the Draft EIR should address the potential for liquefaction, lateral spreading, and differential settlement at the project site, and mitigative measures should be proposed within the context of this information. In particular, site-specific data on any soil intervals expected to liquefy, and the areal extent of these liquefiable soils, should be included.
3. The project site is located adjacent to the San Joaquin Delta, which has continuing land subsidence due to various causes. The Draft EIR should address the potential for subsidence at the project site. If subsidence will occur, specific mitigation measures should be included in the Draft EIR.
4. The project site lies within an area identified in the San Joaquin Safety Element as having highly-expansive soils. Therefore, the Draft EIR should address the impacts of expansive soils and propose mitigation measures.

5. The project site lies within the inundation area from failure of both the San Luis and New Melones Dams (San Joaquin County Safety Element [Exhibit III-27 and III-28]). Therefore, the Draft EIR should address the potential impact from flooding due to failure of one or both of these dams and present specific methods of mitigation, if necessary.
6. The General Plan Amendment proposes to use future site-specific geotechnical studies to identify the impacts of geologic hazards at the project site. Given that knowledge of the extent and potential impacts from geologic hazards at the project site is very limited, and that the San Joaquin County Safety Element has identified several potentially-significant geologic hazards in the project vicinity, a competent geologic and soils engineering investigation is essential to adequately evaluate the seismic hazards and other geologic problems of the project site.

The proposal to use future studies to determine the appropriate methods to mitigate geologic hazards is inconsistent with the California Environmental Quality Act (CEQA). A recent court ruling (Sundstrom vs. County of Mendocino, 202 Cal. App. 3d 296, 1988) determined that future studies are not considered appropriate mitigation under CEQA, since the reliance on future studies improperly removes review of the studies from the CEQA process and precludes public scrutiny and review by other agencies. Therefore, the proposed future investigations should be completed as part of the Draft EIR, with resulting technical reports appended to the document.

If you have any questions regarding these comments, please contact Roger Martin, Division of Mines and Geology Environmental Review Project Manager, at (916) 322-2562.

Sincerely,



Dennis J. O'Bryant
Environmental Program Coordinator

DJO:KC:skk
Enclosures

cc: Roger Martin, Division of Mines and Geology
Kit Custis, Division of Mines and Geology

References:

Bennett, J.H., 1987, Vacaville-Winters Earthquake, 1892, in California Geology, April 1987, pp. 75-83.

Ms. Kitty Walker
September 4, 1990
Page Four

San Joaquin County Safety/Seismic Safety Element, September 1978,
A Portion of The San Joaquin County General Plan.

Toppozada, T.R., Real, C.R., Parke, D.L., 1981, Preparation of
Iseoseismal Maps and Summaries of Reported Effects for Pre-1900
California Earthquakes, DMG Open-File Report 81-11, 182 p.

Toppozada, T.R., Parke, D.L., 1982, Areas Damaged By California
Earthquakes, 1900-1949, DMG Open-File Report 82-17, 65 p.

Wong, I.G., Ely, R.W., and Kollmann, A.C., 1988, Contemporary
Seismicity and Tectonics of the Northern and Central Coast
Ranges-Sierran Block Boundary Zone, California, Journal of
Geophysical Research, Vol. 93, no. B7, pp. 7813-7833.

Wong, I.G. and Biggar, N., 1989, Seismicity of Eastern Contra
Costa County, San Francisco Bay Region, California, Bulletin
of the Seismological Society of America, vol. 79, no. 4,
pp. 1270-1278.



RECOMMENDED GUIDELINES FOR DETERMINING THE MAXIMUM CREDIBLE AND THE MAXIMUM PROBABLE EARTHQUAKES

The following guidelines were suggested by the Geotechnical Subcommittee of the State Building Safety Board on 3 February 1975 to assist those involved in the preparation of geologic/seismic reports as required by regulations of the California Administrative Code, Title 17, Chapter 8, Safety of Construction of Hospitals. CDMG is currently using these guidelines when reviewing geologic/seismic reports.

Maximum credible earthquake

The maximum credible earthquake is the maximum earthquake that appears capable of occurring under the presently known tectonic framework. It is a rational and believable event that is in accord with all known geologic and seismologic facts. In determining the maximum credible earthquake, little regard is given to its probability of occurrence, except that its likelihood of occurring is great enough to be of concern. It is conceivable that the maximum credible earthquake might be approached more frequently in one geologic environment than in another.

The following should be considered when deriving the maximum credible earthquake:

- (a) The seismic history of the vicinity and the geologic province;
- (b) the length of the significant fault or faults which can affect the site within a radius of 100 kilometers; (See CDMG Preliminary Report 13);

- (c) the type(s) of faults involved;
- (d) the tectonic and/or structural history;
- (e) the tectonic and/or structural pattern or regional setting (geologic framework);
- (f) the time factor shall not be a parameter.

Maximum probable earthquake (functional-basis earthquake)

The maximum probable earthquake is the maximum earthquake that is likely to occur during a 100-year interval. It is to be regarded as a probable occurrence, not as an assured event that will occur at a specific time.

The following should be considered when deriving the "functional-basis earthquake":

- (a) The regional seismicity, considering the known past seismic activity;
- (b) the fault or faults within a 100 kilometer radius that may be active within the next 100 years;
- (c) the types of faults considered;
- (d) the seismic recurrence factor for the area and faults (when known) within the 100 kilometer radius;
- (e) the mathematic probability or statistical analysis of seismic activity associated with the faults within the 100 kilometer radius (the recurrence information should be plotted graphically);
- (f) the postulated magnitude shall not be lower than the maximum that has occurred within historic time.

PYA, JES, RWS 2/75



GUIDELINES FOR GEOLOGIC/SEISMIC CONSIDERATIONS IN ENVIRONMENTAL IMPACT REPORTS

The following guidelines were prepared by the Division of Mines and Geology with the cooperation of the State Water Resources Control Board to assist those who prepare and review environmental impact reports.

These guidelines will expedite the environmental review process by identifying the potential geologic problems and by providing a recognition of data needed for design analysis and mitigating measures. All statements should be documented by reference to material (including specific page and chart numbers) available to the public. Other statements should be considered as opinions and so stated.

1. CHECKLIST OF GEOLOGIC PROBLEMS FOR ENVIRONMENTAL IMPACT REPORTS

GEOLOGIC PROBLEMS		Could the project or geologic event cause environmental problems?			Is this conclusion documented in attached reports?	
PROBLEM	ACTIVITY CAUSING PROBLEM	NO	YES	ENVIRONMENTAL PROBLEMS	NO	YES
EARTHQUAKE DAMAGE	Fault Movement					
	Liquefaction					
	Landslides					
	Differential Compaction/ Seismic Settlement					
	Ground Rupture					
	Ground Shaking					
	Tsunami					
	Seiches					
LOSS OF MINERAL RESOURCES	Flooding Due to Failure of Dams and Levees					
	Loss of Access					
	Deposits Covered by Changed Land-Use Conditions					
WASTE DISPOSAL PROBLEMS	Zoning Restrictions					
	Change in Groundwater Level					
	Disposal of Excavated Material					
SLOPE AND/OR FOUNDATION INSTABILITY	Percolation of Waste Material					
	Landslides and Mudflows					
	Unstable Cut and Fill Slopes					
	Collapseable and Expansive Soil					
EROSION, SEDIMENTATION, FLOODING	Trench-Wall Stability					
	Erosion of Graded Areas					
	Alteration of Runoff					
	Unprotected Drainage Ways					
LAND SUBSIDENCE	Increased Impervious Surfaces					
	Extraction of Groundwater, Gas, Oil, Geothermal Energy					
	Hydrocompaction, Peat Oxidation					
VOLCANIC HAZARDS	Lava Flow					
	Ash Fall					

(over)

II. CHECKLIST OF GEOLOGIC REPORT ELEMENTS

REPORT ELEMENTS	YES	NO
A. General Elements Present Description and map of project. Description and map of site. Description and map of pertinent off-site areas.		
B. Geologic Element (refer to checklist) Are all the geologic problems mentioned? Are all the geologic problems adequately described?		
C. Mitigating Measures Are mitigating measures necessary? Is sufficient geologic information provided for the proper design of mitigating measures? Will the failure of mitigating measures cause an irreversible environmental impact?		
D. Alternatives Are alternatives necessary to reduce or prevent the irreversible environmental impact mentioned? Is sufficient geologic information provided for the proper consideration of alternatives? Are all the possible alternatives adequately described?		
E. Implementation of the Project Is the geologic report signed by a registered geologist? Does the report provide the necessary regulations and performance criteria to implement the project?		

*Required for interpretive geologic information.

I. PUBLISHED REFERENCES (selected)

<p>A. California Division of Mines and Geology Publications</p> <ol style="list-style-type: none"> 1. Alfors, J.T., et al., 1973, Urban geology master plan for California: Bulletin 198. 2. Greensfelder, R.W., 1974, Maximum credible rock acceleration from earthquakes in California: Map Sheet 23. 3. Jennings, C.W., 1975 Fault Report 13 of California, GDM No. 1. 4. Oakeshott, G.B., 1974, San Fernando, California, earthquake of 9 February 1971: Bulletin 195. 5. Note No. 37, Guidelines to geologic/seismic reports, 1973. 6. Note No. 43, Recommended guidelines for determining the maximum credible and the maximum probable earthquakes, 1975. 	<ol style="list-style-type: none"> 7. Note No. 44, Recommended guidelines for preparing engineering geologic reports, 1975. 8. Note No. 45, Recommended guidelines for preparing mine reclamation plans, 1975. 9. Parke, D.L., Reel, C.R., Topozada, T.R., 1978, Earthquake Epicenter Map of California, showing events from 1900 through 1974. 10. Reel, C.R., Topozada, T.R., and Parke, D.L., 1978, Earthquake catalog of California, January 1, 1900-December 31, 1974 (microfiche). <p>B. Other Publications</p> <ol style="list-style-type: none"> 1. Allen, C.R., et al., 1965, Relationship between seismicity and geologic structure in the southern California region: Bulletin of the Seismological Society of America, v. 55, no. 4. 	<ol style="list-style-type: none"> 2. Bolt, B.A. and Miller, R.D., 1971, Seismicity of northern and central California, 1905-1969: Bulletin of the Seismological Society of America, v. 61, no. 6. 3. California Department of Water Resources, 1964, Crustal strain and fault movement investigation: Bulletin No. 118-2. 4. Coffman, J.L. and von Hake, C.A., ed., 1973, Earthquake history of the United States: U.S. Department of Commerce, Publication 41-1. 5. Hileman, J.A., et al., 1973, Seismicity of the southern California region, 1 January 1932 to 31 December 1972: California Institute of Technology, Contribution 2386. Periodical updates to this are available.
--	---	---

V. PUBLIC AGENCIES WITH GEOLOGIC DATA

Source	Data Available			
	Seismicity	Geology	Ground Water	Soils
Libraries and Geology and Engineering Departments of California Universities	X	X	X	X
California Institute of Technology	X			
California Division of Mines and Geology (Sacramento, San Francisco, Los Angeles, CA)	X	X		
California Department of Water Resources (Sacramento, CA)		X		X
California Department of Transportation (District Offices)				X
County Soil & Water Conservation Districts				X
County Engineer and Departments of Building and Safety	X	X		X
County Highway Department				X
County Flood Control District				X
U.S. Geological Survey (Menlo Park, CA)		X		
U.S. Corps of Engineers (District Engineer)		X		
U.S. Bureau of Reclamation (Regional Offices)		X		
U.S. Soil Conservation Service and Forest Service				X

DEPARTMENT OF WATER RESOURCES

1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 445-9248



RECEIVED

SEP 18 1990

September 14, 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Ms. Kitty Walker, Senior Planner
San Joaquin County Department of
Planning and Building Inspection
1810 E. Hazelton Avenue
Stockton, CA 95205

Dear Ms. Walker:

In response to a letter from the Office of Planning and Research regarding the San Joaquin County Planning Department's Notice of Preparation for Mountain House New Town dated August 6, 1990, we have the following comments on the scope and content of the Mountain House New Town Environmental Impact Report. We appreciate this opportunity to comment.

The proposed project may conflict with Department of Water Resources planning activities in the south Delta. The South Delta Water Management Program is a vital phase of DWR's water banking program and is designed to resolve local south Delta water supply problems. As one solution to the water level and circulation concerns in south Delta channels, the program proposes to install barrier facilities in certain channels. One of these barriers is planned on Old River east of the Delta-Mendota Canal intake, which would be in the proximity of the proposed Mountain House marina.

Barrier facilities will be designed to regulate flows in the controlled channels in accordance with tidal elevation differences on either side of the structure. In general concept, the incoming tide would pass through the open gates of the structure until the tide peaks; then the gates would close to retain the higher water level in the controlled channel. The controlled channel would be the stretch of channel affected upstream of the barrier. For example, the controlled channel of the Old River is about 18 miles upstream or east of the barrier.

Ms. Kitty Walker

September 14, 1990

A contract is now being negotiated with the South Delta Water Agency to specify the process of testing and finalizing the barrier facilities. The SDWA represents landowners of 150,000 acres that surround this proposed development and this agency is actively promoting the construction of these barriers. An agreement with SDWA could include up to four barriers. Our planning activities are described in the Draft EIR/EIS (June 1990).

The Mountain House EIR should address the project's impact on water quality in South Delta channels and Clifton Court Forebay. The project should not adversely impact the water quality at Clifton Court Forebay, which provides water supply to 19 million Californians via the California Aqueduct.

Please continue to include us on your mailing list for comments on future documents related to the Mountain House project. If you have any questions about this letter on Delta Planning programs, please call me at (916) 445-5955.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Karl P. Winkler', with a stylized flourish at the end.

Karl P. Winkler, Chief
Delta Planning Branch

DEPARTMENT OF WATER RESOURCES

1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 445-9248



August 21, 1990

RECEIVED
AUG 22 1990
SAN JOAQUIN COUNTY
PLANNING DIVISION

Ms. Kitty Walker, Senior Planner
San Joaquin County Department of
Planning and Building Inspection
1810 E. Hazelton Avenue
Stockton, CA 95205

Dear Ms. Walker:

Enclosed is a copy of our South Delta Water Management Program draft Environmental Impact Report, as you requested at the Mountain House scoping meeting on August 17, 1990.

As I noted at the meeting, your project is not compatible with our proposal to construct a barrier facility in Old River adjacent to your proposed marina. We will be sending you the Department's formal comments concerning your project in the next couple of weeks.

If you have any questions, please contact me at (916) 445-4696 or the project manager, Fred Bachmann, at (916) 324-4751.

Sincerely,

Waiman Yip

Waiman Yip, Associate Engineer
South Delta Management Section

Enclosure

EIR in Mt. House Background Info Box

DEPARTMENT OF HEALTH SERVICES

PUBLIC WATER SUPPLY BRANCH

1455 JACKSON ROAD, SUITE 120

SACRAMENTO, CA 95826

(916) 739-4034



RECEIVED

AUG 24 1990

August 21, 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION


Kitty Walker
San Joaquin County
1810 E. Hazelton Avenue
Stockton, CA 95205

The Office of Drinking Water, Department of Health Services has reviewed the data for The San Joaquin County Planning Department's NOP for Mountain House New Town. SCH # 90020776

The Mountain House New Town development proposes to develop a new water system to serve the development. The water supply will be from the Byron-Bethany Irrigation District (BBID). The new water system will require a permit from the Office of Drinking Water. The permit application must contain engineering reports and evaluations of the water supply watershed, source of water (BBID), treatment of the water to assure compliance with current water quality standards and operation and maintenance of the water system. We have serious concerns of water diverted from the Old River because of the water quality problems of that source.

The Mountain House New Town development proposes to discharge waste water to the Old River which is a source of water for the State Project and the Bureau of Reclamation's Delta Mendota Canal. This water is used for domestic use and must be preserved for that beneficial use. Wastewater discharge requirements of the California Regional Water Quality Control Board will likely reflect this agencies concern for preserving the water quality in the Old River drainage system.

The domestic water supply permit application should be submitted to the Office of Drinking Water, Stockton District, 31 East Channel Street, Room 270, Stockton, CA 95202 (209) 948-7697.


A.L. Ellsworth, C.E., Chief
Northern California Region
Office of Drinking Water

File:newtown

DEPARTMENT OF BOATING AND WATERWAYS

1629 S STREET
SACRAMENTO, CA 95814-7291
(916) 445-6281



RECEIVED

AUG 24 1990

RECEIVED

AUG 28 1990

RICHMOND
PLANNING DEPARTMENTSAN JOAQUIN COUNTY
PLANNING DIVISION

August 21, 1990

Kitty Walker
San Joaquin County
1810 E. Hazelton Avenue
Stockton, CA 95205

Dear Kitty Walker:

The Department of Boating and Waterways has no comment on the San Joaquin County Planning Department's Notice of Preparation of a draft Environmental Impact Report for Mountain House New Town (SCH# 90020776).

However, we would like to receive a copy of the draft Environmental Impact Report when it becomes available.

Thank you for the opportunity to review the above mentioned document.

Sincerely,


WILLIAM H. IVERS
Director

cc: State Clearinghouse

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

20 NINTH STREET, SUITE 300
CRAMENTO, CALIFORNIA 95814

RECEIVED

AUG 31 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

AUG 29 1990



Ms. Kitty Walker, Senior Planner
San Joaquin County Department of Planning and
Building Inspection
1810 E. Hazelton Avenue
Stockton, CA 95295

Subject: Notice of Preparation (NOP) for a Draft Environmental
Impact Report (DEIR) for Mountain House New Town, San
Joaquin County

Dear Ms Walker:

California Integrated Waste Management Board (CIWMB) staff have reviewed the NOP for a DEIR for Mountain House, which would be a new community in San Joaquin County. The project site is approximately 4700 acres, and is located north of Interstate 205 to Old River and borders Alameda County. CIWMB ask that the following issues be addressed in preparation of the DEIR:

- * If this community is to be incorporated, the city will be required to prepared a Source Reduction and Recycling Element pursuant to the Integrated Waste Management Act of 1989.
- * Identification of types and quantities of wastes generated from the project which will require land disposal.
- * Identification of the impact of these quantities on remaining landfill capacity in San Joaquin County.
- * Identification of alternatives to landfilling waste and sewage sludge.
- * Identification of recycling activities which may be implemented by the project proponent.
- * New developments increase the amount of waste being sent to local landfills, which are rapidly running out of capacity. In order to preserve remaining disposal capacity, CIWMB staff encourage that every effort be made to minimize the amount of solid waste going to landfills be maximizing recycling and waste reduction efforts.

S
=
[
1
S
(

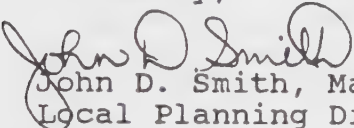
Ms. Walker

Staff suggest that the following measures be considered in order to maximize recycling, reduce waste, and to promote the consumption of recycled materials:

- * A recycling program could be incorporated into the project's plan.
- * Information could be provided to the industries occupying the project about the recycling services in the development area. Identify buy-back center and possible markets for recyclables in the area. Suggest to occupants that they recycle glass, metal, paper, cardboard, and other materials to the maximum extent possible.
- * Insulation and other products made of recycled materials may be used in the construction of development structures.
- * Suggest to industries and developers that they utilize recycled material, such as paper, glass, and metals, to the maximum extent possible.

Thank you for the opportunity to review this NOP. If you have any questions regarding these comments, please contact Jeannie Blakeslee of the Board's Local Planning Division, Environmental Review Branch at (916) 327-0454.

Sincerely,


John D. Smith, Manager
Local Planning Division

ADMINISTRATIVE SUPPORT UNIT

SAN JOAQUIN COUNTY SHERIFF'S DEPARTMENT

468-4414

TO: KITTY WALKER
SENIOR PLANNER
SAN JOAQUIN COUNTY PLANNING DIVISION

DATE: 9-18-90

FROM: MICHAEL ESAU

SUBJECT: MOUNTAIN HOUSE NEW TOWN (EIR NO. ER-91-1)

THE MOUNTAIN HOUSE NEW TOWN PROJECT IS LOCATED AT THE SOUTH/WEST SECTION OF SAN JOAQUIN COUNTY. IT IS PART OF THE SHERIFF'S DEPARTMENT PATROL BEAT EIGHT (8). THE PROJECT IS LOCATED NEAR THE CITY OF TRACY AND BORDERED BY I-205 ON THE SOUTH, OLD RIVER ON THE NORTH, ALAMEDA COUNTY LINE ON THE WEST AND PATTERSON PASS ROAD ON THE EAST.

THE BORDERS OF DISTRICT EIGHT (8) ARE: HWY 4 ON THE NORTH, SAN JOAQUIN RIVER ON THE EAST, STANISLAUS COUNTY LINE ON THE SOUTH AND ALAMEDA COUNTY LINE ON THE WEST. THE POPULATION OF THE UNINCORPORATED AREA IS APPROXIMATELY 8,800. THE ALLOCATED PATROL DISTRICT STAFFING IS TWELVE (12) DISTRICT DEPUTIES AND TWO (2) COMMUNITY CAR DEPUTIES. ALLOCATED STAFFING IS NOT ALWAYS ACHIEVED.

THIS DEPARTMENT IS BUILDING A NEW ADMINISTRATIVE/JAIL FACILITY IN FRENCH CAMP. THIS FACILITY IS SCHEDULED TO OPEN JANUARY 1992. ALL DEPARTMENT OPERATIONS WILL BE LOCATED IN THE NEW FACILITY.

THE MOUNTAIN HOUSE NEW TOWN SITE IS 3,887 ACRES. IT IS EXPECTED TO HAVE 10,128 HOMES OCCUPIED BY 28,000 PEOPLE BY THE YEAR 2005. IN ADDITION TO THE RESIDENTIAL DEVELOPMENT THERE WILL ALSO BE A LARGE COMMERCIAL AREA AND RECREATIONAL AREAS SUCH AS PARKS GOLF COURSE, 400 BOAT MARINA, EIGHT (8) SCHOOLS AND LIGHT INDUSTRIAL AND WAREHOUSE AREAS.

CALLS-FOR-SERVICE FOR DISTRICT EIGHT ARE AS FOLLOWS:

1989	1,956
1988	1,842
1987	1,112

THIS DEPARTMENT HAS EIGHT (8) PATROL DISTRICTS. THE ALLOCATED STAFF TO PATROL DIVISION IS 112 DEPUTIES. THERE ARE SIX (6) PATROL TEAMS IN THE DIVISION. THEY ARE EACH ALLOCATED SIXTEEN (16) DEPUTIES (TWO PATROL

DEPUTIES FOR EACH OF THE DISTRICTS). TEAMS ARE SCHEDULED TO WORK DAYSHIFT, SWINGSHIFT AND GRAVEYARD WHILE THREE (3) TEAMS ARE ON DAYS OFF. WEDNESDAY IS THE COMMON WORK DAY (USUALLY USED FOR INSERVICE TRAINING OR SPECIAL ASSIGNMENTS). IN ADDITION TO THE SIX DISTRICT TEAMS ARE SIXTEEN COMMUNITY CAR DEPUTIES. TWO COMMUNITY CAR DEPUTIES ARE ASSIGNED TO EACH OF THE TOWNSHIPS. THEY ARE SCHEDULED TO DAY TIME HOURS ONE ON DUTY IN EACH TOWNSHIP THE OTHER ON DAYS OFF. WEDNESDAY IS THE COMMON WORK DAY.

THIS DEPARTMENT PROJECTS STAFFING BASED UPON ONE PATROL DEPUTY PER THOUSAND POPULATION, WITH OTHER FACTORS CONSIDERED (NATURE OF DEVELOPMENT, LOCATION, GEOGRAPHIC RELATIONSHIP TO OTHER AGENCIES, ETC...). THE MINIMUM LINE STAFFING IN THE FIRST YEAR IS SIX (6) PATROL DEPUTIES. HOWEVER, THE MINIMUM NUMBER OF LINE PATROL DEPUTIES NEEDED TO PERFORM PATROL SERVICE TO THE PROJECT IS TWELVE (12) DEPUTIES. THE AREA IS REMOTE AND OFFICER SAFETY IS A CONCERN, PARTICULARLY AT NIGHT TIME HOURS. THE FACT THAT ACTUAL STAFFING FOR THE DISTRICT IS BELOW THE ALLOCATED LEVEL AND TRACY POLICE DEPARTMENTS ABILITY TO RESPOND TO BACK-UP THE DEPUTIES ASSIGNED TO THE PROJECT IS QUESTIONABLE, TWO (2) SOLO DEPUTIES WILL WORK THE PROJECT AT THE SAME TIME.

WHEN THE POPULATION INCREASES AND DEMAND FOR URBAN SERVICES SUCH AS TRAFFIC ENFORCEMENT OR COMMUNITY EVENTS SUCH AS PARADES, CONCERTS, AND PEOPLE GATHERING ACTIVITIES EXIST, THE CALLS-FOR-SERVICE WORKLOAD WILL THEN NECESSITATE TWO (2) DEPUTIES OR MORE PER SHIFT INTO YEAR THREE (3).

LAW ENFORCEMENT WORKLOAD IS NOT LIMITED TO CALLS-FOR-SERVICE. THE MOST TIME CONSUMING POLICE ACTIVITIES ARE FOLLOW-UP INVESTIGATIONS, WARRANTS SERVICE, SUBPEONA SERVICE, TRANSPORTATION OF ARRESTED SUBJECTS, TESTIFYING IN COURT. ALSO, DIRECTED PATROL ASSIGNMENTS SUCH AS PARK PATROL. THESE TASKS ARE NOT REFLECTED IN CALLS-FOR-SERVICE TOTALS.

SAN JOAQUIN COUNTY SHERIFF'S DEPARTMENT
CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

TO: KITTY WALKER, PLANNER
SAN JOAQUIN COUNTY PLANNING DIVISION

DATE: SEPTEMBER 17, 1990

FROM: PETER BURNETT, DEPUTY SHERIFF

SUBJECT: MOUNTAIN HOUSE MARINA

The marina at Mountain House will have a major impact on the San Joaquin County Sheriff's Department and in particular the Boating Safety Division.

The following Crime Prevention and Boating Safety concepts should be incorporated in the design of the marina.

The Mountain House Marina is to be located in the extreme South-West corner of San Joaquin County. Travel time to the marina from the Sheriff's Boathouse in North Stockton is approximately two hours. The marina will generate boating traffic and will create a need for an additional Boating Safety presence in the South Delta.

A larger presence can only be accomplished with the addition of at least four deputies to the Boating Safety Division. This would provide two deputies per day off sequence.

Support facilities will have to be provided as well and they should include:

1. Two covered berths capable of berthing Sheriff's Patrol boats 25 ft. in length.
2. Office space, restroom and shower facilities.
3. Six parking spaces. Two for 26 ft. boat trailers, two for Sheriff's Patrol vehicles and two for deputies private vehicles.

The marina should provide a gas dock and holding tank pump-out station. This will discourage illegal dumping of sewage into the waterways. To further protect the environment from untreated sewage live-a-boards should be prohibited within the marina.

The marina should provide launching facilities. If a ramp is used it should be large enough to accomodate two boats at one time. One side of the ramp should be designated for launching and the other for retrieving. This will tend to eliminate misunderstandings at time of peak use.

EMERGENCY ACCESS

A dock should be provided to off load injured boaters. The dock should be located as near the first waterside entrance as possible. This will preclude the injured from having to be motored slowly through the marina to disembark. This dock should be accessable to emergency vehicles and a space suitable to land an emergency helicopter should be provided nearby.

The ramps to all docks should be wide enough to accomodate a gurney.

MARINA SECURITY

The site plan indicates that there is going to be access to housing areas via Old River. These areas should be protected with a breakwater seperating them from Old River. This would eliminate wake damage to docked boats by vessals speeding on Old River. Access to these areas should be kept at a minimum and they should be lighted.

The perimeter of the marina should be fenced with security type fencing.

Vehicle parking areas should be lighted with one foot candle, per sq. foot, minimum maintained.

Dock space should be lighted and care should be taken to confine the light so that it does not spill onto the adjacent waterways or property. One quarter (25/100) foot candle, per square foot, minimum maintained would be acceptable.

All buildings should be clearly identified. Boat houses, docks and individual berthing spaces should be named or numbered using letters and numbers at least four inches in height, readily visible from contiguous walkways, driveways and waterways, and colored in contrast to the background.

Access to the boat docks should be controlled by using locked gates and security fencing on the boat ramps.

ADDITIONAL COMMENTS

A full time, resident harbor master is recommended for a boating facility of this size. A harbor master can enforce marina rules and regulations and mitigate problems before they become police concerns.

Neighborhood Watch and Marina Watch groups can be started to provide effective, cost efficient security.

ADMINISTRATIVE SUPPORT UNIT
SAN JOAQUIN COUNTY SHERIFF'S DEPARTMENT

468-4414

TO: KITTY WALKER DATE 9-17-90
SENIOR PLANNER
SAN JOAQUIN COUNTY PLANNING DIVISION

FROM: MICHAEL ESAU

SUBJECT: MOUNTAIN HOUSE NEW TOWN (EIR NO. ER-91-1)

THIS PROJECT ALONE WILL HAVE MINIMAL/MAJOR IMPACT ON CURRENT LAW ENFORCEMENT PROCEDURES, CONTINUED GROWTH OF THIS NATURE WILL NECESSITATE THE ESTABLISHMENT OF A FUNDING MECHANISM TO MAINTAIN THE CURRENT LEVEL OF POLICE SERVICE.

IT IS RECOMMENDED THAT THE FOLLOWING CRIME PREVENTION CONCEPTS BE INCORPORATED IN THE PROJECT DESIGN:

RESIDENTIAL DEVELOPMENT

HOMES SHOULD HAVE ADDRESSING THAT IS CLEARLY DIRECTIONAL AND DISPLAYED AT EACH WALKWAY ENTRANCE TO DIRECT EMERGENCY SERVICE PERSONNEL MORE RAPIDLY. THE ADDRESSES MUST BE CLEARLY VISIBLE AT ALL TIMES (COLOR CONTRASTING TO BACKGROUNDS, e.g., WHITE ON BLACK) AND ILLUMINATED DURING HOURS OF DARKNESS.

STREET LIGHTING SHOULD MEET THE COUNTY STANDARD.

CUL-DE-SAC STREET WIDTH SHOULD BE 52'.

CUL-DE-SAC STREET LENGTH SHOULD NOT EXCEED 300'.

CUL-DE-SAC TURN-AROUND SHOULD BE 60'.

PERIMETER FENCING SHOULD BE REQUIRED.

SECURITY SHRUBBERY SHOULD BE PLACED ADJACENT TO THE FENCING TO RESTRICT CLIMBING OF THE FENCE. (THIS IS PARTICULARLY IMPORTANT WHEN BACKYARDS FACE ADJOINING STREETS, PARKS, COMMONS, OR WHEN THE BACKYARD IS NOT READILY VISIBLE BY OTHER RESIDENTS.

WINDOW ORIENTATION IS VERY IMPORTANT FOR TWO REASONS: RESIDENTS NEED TO BE ABLE TO VISUALLY INVESTIGATE ANY SUSPICIOUS NOISES WITHOUT GOING OUTSIDE THEIR HOMES, AND WINDOWS CAN ACT AS A DETERRENT TO INDIVIDUALS CONSIDERING UNLAWFUL ACTIVITY, BECAUSE THEY CAN SEE THAT THE OCCUPANT COULD BE WATCHING.

THE SITE PLAN DEPICTS EARTH BERMS . THESE SHOULD NOT EXCEED ONE AND ONE-HALF FEET IN HEIGHT.

THE SITE PLAN DEPICTS NUMEROUS TREES AROUND THE PERIMETER AND INTERIOR OF THE PROJECT. UNLESS THE TREES ARE OPTIMALLY PLACED AND KEPT TRIMMED UP (SIX FEET ABOVE GROUND), THEY CAN PROVIDE CONCEALMENT FOR CRIMINAL ACTIVITY, AS WELL AS OBSCURE OBSERVATION OF OPEN SPACE BY HOME OWNERS OR PATROLLING DEPUTIES.

CONSTRUCTION SHOULD MEET THE CALIFORNIA MODEL BUILDING SECURITY ORDINANCE AS DEVELOPED BY THE CALIFORNIA CRIME PREVENTION OFFICERS ASSOCIATION.

THE CONSTRUCTION SITE AND ALL OPEN STORAGE OF MATERIALS' SUPPLIES AND EQUIPMENT SHALL BE SECURED BY USE OF FENCING COMPLETE WITH AN ACCESS GATE CAPABLE OF BEING LOCKED. ANY BUILDING OR TRAILER USED AS STORAGE OR AS AN OFFICE SHALL BE WITHIN THE FENCED PORTION OF THE CONSTRUCTION SITE. THE FENCED AREA SHALL BE ILLUMINATED DURING ALL HOURS OF DARKNESS. ALL EXITS/ENTRANCE SHALL BE LOCKED AT ALL TIMES WHEN PERSONNEL ARE NOT PRESENT.

RESIDENTIAL COMMERCIAL

THE PROJECT PLAN DOES NOT DEPICT A DIRECTORY AT THE ENTRANCE TO THE COMPLEX.

THE DIRECTORY SHOULD BE ILLUMINATED AND CONSTRUCTED OF VANDAL-RESISTANT MATERIAL.

THE LETTERING, NUMBERING AND DIAGRAMS SHOULD BE LARGE ENOUGH SO THAT THE DRIVER OF A VEHICLE CAN READ THE BOARD FROM THE DRIVER'S SEAT.

THERE SHOULD BE A DRIVEOUT AREA FROM WHICH TO VIEW THE DIRECTORY, AND YET, NOT OBSTRUCT THE TRAFFIC FLOW.

THE DIRECTORY MUST BE INSTALLED PRIOR TO OCCUPANCY.

CENTER LINE STRIPING SHOULD BE INCLUDED THROUGHOUT THE DRIVEWAY SYSTEM.

IT IS RECOMMENDED THAT THE PLANNING STAFF REQUIRE THE DEVELOPER TO PROVIDE FORM PARKING CONTROL BY THE FOLLOWING PROCEDURES OR INCORPORATING PRINCIPLES:

PROJECT C.C. & R.'S PROHIBIT RECREATIONAL VEHICLE PARKING;

REQUIRE THAT HOMEOWNERS PARK VEHICLES INSIDE THE GARAGE;

ALLOW PRIMARY TRANSPORTATION ONLY TO BE PARKED ON SITE;

ASSIGN ONE PERMANENT, FULL-SIZE COVERED STALL PER UNIT THROUGH RENTAL/TITLE PAPERS;

IDENTIFY THE MANAGER/ASSOCIATION PRESIDENT AS BEING SPECIFICALLY RESPONSIBLE FOR REMOVING ILLEGALLY PARKED VEHICLES.

THE PLAN DOES NOT DEPICT A PLAY AREA, "TOT LOT" FOR CHILDREN. SUCH AN AREA SHOULD BE PROVIDED TO REMOVE PLAY AND VANDALISM FROM DRIVEWAYS.

PARKING ASSIGNMENTS SHOULD BE MADE TO ALLOW RESIDENTS VISUAL CONTROL OF ASSIGNED PARKING STALLS.

NUMBERS ASSIGNED TO PARKING STALL SHOULD NOT CORRESPOND TO TENANT'S APARTMENT NUMBER.

TO REDUCE UNWANTED FOOT TRAFFIC, OR DIRECT FOOT TRAFFIC TO AREAS MORE READILY OBSERVABLE BY TENANTS, CROSS FENCING SHOULD BE REQUIRED IN SELECTED LOCATIONS.

THE LAUNDRYROOM SHOULD BE KEPT LOCKED DURING THE EVENING AND NIGHT HOURS, IF NOT ALL OF THE TIME.

THE LIGHT SWITCH SHOULD BE CONTROLLED BY A SWITCH THAT IS NOT READILY ACCESSIBLE.

WAREHOUSE COMMERCIAL/INDUSTRIAL

PARKING AREA SHOULD ALLOW FOR VISUAL OBSERVATION BY OFFICE STAFF OR OTHER EMPLOYEES.

REQUIRED PROJECT LIGHTING LEVELS AS FOLLOWS:

ONE QUARTER (25/100) FOOTCANDLES OF ILLUMINATION PER SQUARE FOOT OF SURFACE IN PARKING AREAS.

PERIMETER LIGHTING TO CREATE AN EVEN BAND OF LIGHT 25' TO 50' WIDE ALONG THE ENTIRE PERIMETER OF THE PROJECT.

AUXILIARY LIGHTING OVER EACH POINT OF ENTRY.

ALL LIGHTING FIXTURES TO BE OF VANDAL RESISTANT RESISTANT CONSTRUCTION.

ALL LIGHTS SHOULD BE PLACED ON TIMERS CAPABLE OF TURNING LIGHTS ON AND OFF ONE-HALF HOUR PRIOR TO DAWN AND ONE -HALF HOUR PAST DUSK.

CARE SHOULD BE GIVEN TO AVOID STRAY LIGHT FALLING ON ADJACENT PROPERTY.

LANDSCAPING SHOULD INCLUDE SECURITY SHRUBBERY ALONG FENCES TO DISCOURAGE WOULD-BE INTRUDERS.

SECURITY SHRUBBERY SHOULD ALSO BE USED UNDER WINDOWS.

THE SITE PLAN DEPICTS NUMEROUS TREES AROUND THE PERIMETER AND INTERIOR OF THE COMPLEX. UNLESS TREES ARE OPTIMALLY PLACED AND KEPT TRIMMED UP (SIX FEET ABOVE GROUND), THEY CAN PROVIDE CONCEALMENT FOR CRIMINAL ACTIVITY, AS WELL AS OBSCURE OBSERVATION OF THE PROPERTY BY PATROL DEPUTIES.

THE SITE PLAN DEPICTS EARTH BERMS. THESE SHOULD NOT EXCEED ONE AND ONE-HALF FEET IN HEIGHT, SO AS NOT TO OBSCURE OBSERVATION OF THE PROPERTY BY PATROL DEPUTIES.

CCTV MONITORING SHOULD BE CONSIDERED FOR THE LOADING DOCK AREA.

CONSTRUCTION SHOULD MEET THE CALIFORNIA MODEL BUILDING AND SECURITY ORDINANCE AS DEVELOPED BY THE CALIFORNIA CRIME PREVENTION OFFICERS ASSOCIATION.

ADMINISTRATIVE SUPPORT UNIT

SAN JOAQUIN COUNTY SHERIFF'S DEPARTMENT

468-4414

TO: KITTY WALKER DATE: 9-17-90
SENIOR PLANNER
SAN JOAQUIN COUNTY PLANNING DIVISION

FROM: MICHAEL ESAU

SUBJECT: MOUNTAIN HOUSE NEW TOWN (EIR NO. ER-91-1

TWENTY-FOUR COMMERCIAL BUSINESS

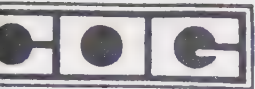
THE SAN JOAQUIN COUNTY SHERIFF'S DEPARTMENT HAS EXPERIENCED THE FOLLOWING PROBLEMS ASSOCIATED WITH TWENTY-FOUR HOUR GAS STATION AND CONVENIENCE STORES:

1. LOITERING ABOUT THE FACILITY OR ON ADJACENT PUBLIC PROPERTY.
2. ABUSE OF ALCOHOL AND DRUGS.
3. FIGHTING.
4. ENCROACHMENT OF NOISE INTO RESIDENTIAL SUBDIVISIONS.
5. LITTERING OF THE AREA SURROUNDING THE COMPLEX.
6. VANDALISM TO PROPERTY OF HOMEOWNERS AND BUSINESSES IMMEDIATELY ADJACENT TO THE SITE.
7. INADEQUATE PUBLIC STREET LIGHTING AROUND THE PROJECT THAT, IN AFFECT, CREATES DARK AREAS WITHIN WHICH YOUNGSTERS HIDE AND USE DRUGS OR ALCOHOL.
8. LACK OF MANAGEMENT CONCERN TO DEAL WITH DISCIPLINARY PROBLEMS, E.G., UNRULY CUSTOMERS, SWIFTLY.
9. LACK OF ON-SITE SECURITY.
10. CUSTOMER'S RELIEVING THEMSELVES (URINATING) IN THE PARKING AREA.
11. ROBBERY.

THE FOLLOWING RECOMMENDATIONS ARE INTENDED TO MITIGATE THE POTENTIAL AFFECTS ON THE COMMUNITY. IN ADDITION TO PROPOSED RULES BY THE BUSINESS:

1. REQUIRED PROJECT LIGHTING AS FOLLOWS: 1.5 FOOTCANDLES OF MINIMUM MAINTAINED ILLUMINATION PER SQUARE FOOT OF PARKING SPACE DURING BUSINESS HOURS AND 2.5 FOOTCANDLES OF MINIMUM MAINTAINED ILLUMINATION PER SQUARE FOOT OF SURFACE ON ANY WALK-WAY, ALCOVE, PASSAGEWAY, ETC., FROM ONE-HALF HOUR BEFORE DUSK TO ONE-HALF HOUR AFTER DAWN. ALL LIGHT FIXTURES ARE TO BE VANDAL RESISTANT.
2. REQUIRE THAT MANAGEMENT BE RESPONSIBLE FOR THE REMOVAL OF LITTER FROM ADJACENT PROPERTY AND STREETS THAT RESULT FROM THIS PROJECT.
3. REQUIRED THAT STORE WINDOWS BE LEFT UNOBSTRUCTED TO ALL VIEWING OF THE INTERIOR OF THE BUSINESS BY PATROLLING DEPUTIES. DESIGN TO ALLOW EMPLOYEES PRIMARY WORK POSITION.
4. BUILDING SECURITY TO RESIST CRIME ATTEMPTS BY BOTH HARDWARE AND ELECTRONIC SYSTEMS:
 - A. THE CASHIER STATION SHOULD BE RAISED. THIS TENDS TO GIVE AN ADVANTAGE OF HEIGHT AGAINST WOULD BE CRIMINALS;
 - B. HAVE DISPLAY COUNTERS LOW ENOUGH THAT THE CASHIER HAS VISIBILITY THROUGHOUT THE STORE. INSTALL MIRRORS TO INCREASE VISIBILITY IN ANY CORNERS OR HIDDEN AREAS;
 - C. HAVE A BUZZER ON DOORS OF THE COLD BOX SO THAT THE CLERKS WILL KNOW WHEN SOMEONE HAS REMOVED MERCHANDISE FROM THE REFRIGERATOR AREAS;
 - D. DESIGN CASHIER STATION TO BE VISIBLE FROM THE PARKING AREA. DO NOT BLOCK WINDOWS OR DOORS WITH POSTERS OR SIGNS. KEEP COUNTERS CLEAN OF EXCESS DISPLAYS TO PROMOTE THE VISIBILITY OF THE CASHIERS STATION;
 - E. HAVE A TWO-WAY MIRROR ON INSIDE DOORS TO STORAGE, UTILITY AND OFFICE AREAS. THIS CREATES UNCERTAINTY AS TO HOW MANY PEOPLE ARE ACTUALLY IN THE STORE AND TENDS TO DETER CRIMINALS

- F. DUE TO PAY POINT AND LOTTERY REQUIREMENTS OF ACCESS TO LARGE AMOUNTS OF MONEY ON THE PREMISES, THE FACILITY SHALL HAVE A DROP SAFE INSTALLED. THE MANAGER SHOULD ESTABLISH STRICT INTERNAL SECURITY MEASURES TO CONTROL EMPLOYEE PILFERAGE. THE STORE SHALL HAVE A SIGN INDICATING THAT EMPLOYEES DO NOT HAVE ACCESS TO THE SAFE.
5. SIGNS SHALL BE POSTED PROHIBITING CONSUMPTION OF ALCOHOLIC BEVERAGES IN THE BUSINESS OR IN THE PARKING AREAS. SIGNS SHALL READ: "IT IS UNLAWFUL TO ENTER OR REMAIN ON THESE PREMISES, ADJACENT PARKING LOT OR ADJACENT PUBLIC SIDEWALK WITH AN OPEN ALCOHOLIC BEVERAGE CONTAINER. P.C. 647f (A)" - PLUS ANY APPROPRIATE LOCAL ORDINANCES. LETTERING TO BE BLOCK STYLE AND A MINIMUM OF 2 1/2" IN HEIGHT. SIGNS WILL BE CLEARLY VISIBLE TO THE PATRONS OF THE BUSINESS PARKING LOT AND TO PERSONS ON THE PUBLIC SIDEWALK.
6. ALL ILLEGAL ACTIVITIES OBSERVED ON OR AROUND THE BUSINESS SHALL BE PROMPTLY REPORTED TO AUTHORITIES;
7. BUSINESS RULES SHALL BE POSTED IN THE BUSINESS INTERIOR IN A CONSPICUOUS PLACE;
8. HAVING TWO WORKING TOILET FACILITIES FOR USE BY THE PUBLIC. THESE RESTROOMS MUST BE SELF LOCKING AND THE KEY MUST BE AVAILABLE FROM THE ATTENDANT. EXTRA KEYS MUST BE EASILY ACCESSIBLE IN CASE OF EMERGENCIES. INTERIOR RESTROOMS MUST BE VISIBLE TO ATTENDANTS. THEY MAY BE CONTROLLED BY REMOTE, ELECTRONIC LOCKS;
9. BICYCLE SECURITY RACKS MUST BE PROVIDED AT THE FRONT OF THE BUSINESS;
10. THE PARKING AREAS MUST BE VISIBLE FOR INTERNAL MONITORING. THERE SHALL BE WINDOWS ON ALL SIDES WHERE PARKING IS ALLOWED. IF THAT IS NOT FEASIBLE, THERE SHOULD BE CCTV MONITORING OF THE BLIND SIDE(S).



San Joaquin County Council of Governments

Member Agencies: Cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, Tracy, County of San Joaquin

September 7, 1990

Ms. Kitty Walker
San Joaquin County
Planning Department
1810 E. Hazelton Avenue
Stockton, CA 95205

RE: Mountain House Notice of Preparation (NOP) and Environmental
Assessment (EA)

Dear Ms. Walker:

We have reviewed the subject documents and wish to offer the following comments.

We are pleased that the County will be directly retaining its own consultant to prepare the DEIR. The DEIR should critically examine the numerous assumptions and preliminary work prepared by the proponent's consultants. Our major concerns follow below.

Jobs/housing balance. An important benefit from a true new town is the ability to afford people the opportunity to live where they work. Although we find it encouraging that the Mountain House project is proposed to contain a mix of residential and job generating land uses, we are concerned that the proposed mix of anticipated resident employees by job type may be unworkable in terms of the housing types provided. With only 26 percent of the anticipated jobs in the Office/R&D category, and most of the rest in the retail, service or light industrial/warehousing categories, this leaves a sizeable work-force in employment categories where more affordable housing will be needed than is currently proposed. About 80 percent of the proposed Mountain House housing stock will be priced above \$175,000 in 1989 dollars, and about 63 percent priced above \$225,000. This means that either most of the jobs created in the project will have to pay relatively high wages, or more outside (i.e., Bay Area) workers will purchase Mountain House homes. In the latter case, Mountain House jobs would be largely filled by lower-income individuals commuting from more affordable housing in other parts of San Joaquin County. The impacts on the transportation system, particularly state highways, could be severe.

One possibly unforeseen impact relates to the general availability of multiple unit housing. In recent years, the southern part of San Joaquin County has seen creation of few multiple-family or duplex units. Therefore, any high density units in Mountain House may attract a wide, pent-up market, especially as the

Ms. Kitty Walker
September 7, 1990

cities of Tracy and Manteca add to their retail and service employee base with planned regional and local shopping centers. These potential Mountain House residents will probably not work inside the Mountain House community.

Because of the above concerns, and because of the well-known affinity of Bay Area residents to purchase lower cost Valley housing, we believe the assumption that 52% of Mountain House trips will remain within the project area is extremely optimistic. The 52% assumption, and the entire jobs/housing issue, should be most carefully examined by the DEIR.

Fair Share Housing. The proposed household income of \$27,722 for the high density units is very close to estimates of the 1989 San Joaquin County median household income. This suggests that little or no housing in the community will be targeted towards low or moderate income families (moderate income is generally defined as about 80 percent of an area median income). In our opinion, the Mountain House project as planned will not be in concert with policies that new communities provide "a choice of housing for all socio-economic segments of the community." Nor will it enhance the County's position in terms of provision of its fair share of regional housing needs. The DEIR should address the issue of fair share housing.

The Mountain House Traffic Model. We understand and support the creation of a new traffic model centered on Mountain House and extending into San Joaquin, Alameda, and Contra Costa Counties. This is the best way to project and measure the impacts of plopping an entirely new community into a relatively isolated rural area. In addition, we are of course aware that the SJCCOG model was utilized in the development of the new town model. However, we are concerned that all future project traffic modeling reflect the very latest land use assumptions in all affected counties. These should reflect 2010 cumulative conditions with the fully developed Mountain House community in place. In addition, because of the unique nature of the project, there is at least the potential that impacts at partial buildout could be greater than impacts at full buildout. Ideally, project phasing would be such that greater interim impacts are minimized or eliminated. In any case, interim model runs may be advisable to address this issue.

Ms. Kitty Walker
September 7, 1990

Trip Distribution Assumptions. As previously discussed, the DEIR should critically examine the 52% internal trip assumption. In addition, the distribution of trips entering and leaving the project area should be closely examined. In particular, the assumed 13% over the Altamont Pass defies recent trends, and seems low.

Growth Intercepting versus Growth Inducing. An important issue which the DEIR should address is as follows: will the Mountain House growth be instead of, or in addition to, growth already projected for other areas of San Joaquin County? In other words, will Mountain House be growth intercepting, as the proponents claim, or growth inducing? The DEIR should fully examine this key issue.

We are assuming that County staff will work closely with their DEIR consultant to address this issue. In conjunction with this process, countywide land use assumptions should be reworked and a new 2010 COG model run performed.

Traffic Impact Assessment and Mitigation. Once the land use and trip distribution issues are settled, the revised Mountain House Traffic Model should be rerun and traffic impacts should be addressed and mitigated. The excellent Transit and TDM Plan described in the EA should be retained and emphasized in the DEIR. At the same time, it should be frankly recognized that many people will choose to commute in single occupant autos regardless of the availability of alternative modes.

The EA falls short of recognizing traffic impacts on mainline state highways. Regardless of the ultimate assumptions used, mainline impacts will be significant. The statement on page 1-15 of the EA that "As a planned community, Mountain House will help solve regional transportation problems" is theoretically valid but realistically highly questionable. The true regional impacts, including impacts to mainline facilities, must be carefully assessed and mitigated in the DEIR.

As a related aside, the EA is seriously in error regarding the status of I-205. Page 4-25 refers to "the beginnings of traffic congestion at I-205". In fact, I-205 currently experiences F LOS on a daily basis. In addition, page 4-32 states that "I-205 will require widening from 4 to 6 lanes to accommodate year 2010 traffic . . ." In fact, 6 lanes are a current need. Current

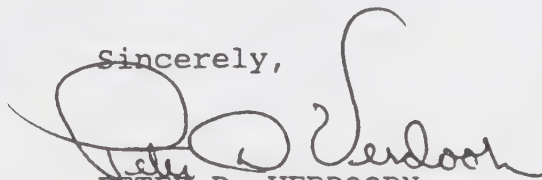
Ms. Kitty Walker
September 7, 1990

projections foresee a need for 8 lanes by 2010.

In summary, we believe the basic Mountain House concept has merit. Based on the proponent's work, the project looks very good indeed. However, we look to the County's DEIR to critically examine the numerous important issues identified in this letter and elsewhere.

Thank you for the opportunity to comment. We look forward to reviewing the DEIR.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Peter D. Verdoorn', is written over the typed name.

PETER D. VERDOORN
Executive Director

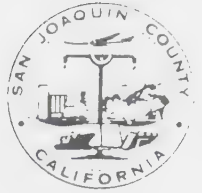
PDV:GD:PW

cc: Dennis Azevedo
Mike Locke

SAN JOAQUIN COUNTY
AIR POLLUTION CONTROL DISTRICT

JOGI KHANNA, M.D., M.P.H.
Air Pollution Control Officer

P. O. Box 2009 (2321 W. Washington St., Suite I) Stockton, CA 95201
209/468-3470



September 10, 1990

Kitty Walker
Senior Planner
San Joaquin County
Department of Planning and Building Inspection
Stockton, CA 95205

RE: NOP of Environmental Impact Report No. ER-91-1

The San Joaquin County Air Pollution Control District has reviewed the NOP of Environmental Impact Report file No. ER-91-1.

After reviewing the NOP of EIR file no. ER-91-1, the District has the following comments and recommendations:

A. San Joaquin County's air quality relative to National and State Air Ambient Quality Standards has been designated as a non-attainment area by the California Air Resources Board as follows:

- PM-10 - Non-attainment
- CO - Non-attainment (for Stockton Metropolitan Statistical area only)
- Ozone - Non-attainment (possible SIP call area)

The California Clean Air Act, AB 2595, requires counties which are designated non-attainment to achieve an annual 5% reduction in emissions until the standards are met.

B. Due to the immense size of this project and its probable significant environmental effects that will result from this project, the San Joaquin Air Pollution Control District supports the recommendation in preparing an Environmental Impact Report for the Mountain House New Town Project.

SJC APCD
EIR-91-1
September 10, 1990

C. The EIR should included the following:

1. the impact on air quality due to the cumulative effect on present and future developments, if any, close to the project,
2. the impact on air quality due to the combined uses of residential, industrial, and other (commercial) developments,
3. the air quality impacts of CO to the environment for the entire development period (build out) resulting from hotspots,
4. in addition to park and ride lots and car-pooling discussion of mitigation measures on air quality for reducing vehicles miles traveled should include bike paths, access to regional transit system,
5. the air quality impact on nearby schools of this project,
6. project's delegation of an appropriate party or agency in monitoring the implementation of mitigation measures (AB 3180),
7. impact on air quality of this project on the San Joaquin County as well as the entire air basin due to transport of pollutants
8. impact on air quality due to the attracting of mobile sources from outside of the city or the county (long-distance commuters),
9. the project should be specific in listing all proposed mitigation measures and the responsible agency to ensure implementation,
10. due to excess emissions of the projects the District does not recommend any drive-through services.

D. The District recommends the Project to use the URBEMIS2 modeling program to calculate the pollutant emissions resulting from various land uses due to motor vehicle trips. Emissions are calculated for total organic

SJC APCD
ER-91-1
September 10, 1990

gases (TOG), carbon monoxide estimating ozone precursor emissions, TOG should be converted to reactive organic compounds (ROG) by multiplying the TOG emissions by 0.9178. Pollutants should be expressed in lbs or tons per day.

E. Transportation Control Measures should be stressed in the EIR as circulation problems almost always occurs in "new towns", as a result there would be more air quality problems then expected. The use of the Caline 4 computer program should be used for predicting carbon monoxide, nitrogen dioxide, particulate, or other inert gaseous pollutant concentrations near a roadway.

F. The use of the computer program EMFAC7E as developed by the State Air Resources Board is a program when given certain information by the user will estimate on road emission factors for a vehicle fleet, in turn these emission factors may be used as input to the Caline 4 model.

G. Transportation System Management or Transportation Demand Management plans are to be taken into account for the cumulative effects of these projects.

H. The District foresees the problem with Carbon Monoxide and fine particular matter (PM-10) if the Project includes the burning of wood in fireplaces and stoves. The new EPA certified fireplace inserts have been shown in laboratory testing with emissions of particulate matter ranging from 70% to 90% less than conventional stoves. The District recommends EPA certified fireplaces inserts and stoves as a mitigation measure for Carbon Monoxide and PM-10.

I. The applicant should be aware of the PM-10 Fugitive Dust Rule and the Indirect Source Review Rule, both of which are currently proposed by the District for adoption in the near future. Both of these rules are available upon written request to the District.

J. In addition, rules and regulations of the New Source Review Rule will apply to certain commercial and

SJC APCD
ER-91-1
September 10, 1990

industrial sources, it will be the source's responsibility to be in compliance with these rules and regulations prior to operation.

K. Projects shall designate a person or persons to maintain adequate record keeping of mitigation measures for the Air Pollution Control District staff in making scheduled or unscheduled inspections.

L. In addition, emissions generated during construction are of concern to the District. The Projects shall implement the District's Fugitive Dust Control Measures during construction. A copy of the District's Dust Control Measures is attached.

If you have any questions regarding this matter, please do not hesitate to contact David Kwong at (209) 468-3469.

Jogi Khanna, M.D., M.P.H.
Air Pollution Control Officer

Lakhmir Grewal
Lakhmir Grewal, Director
Air Pollution Control District

JK/LG/DK
JK

SAN JOAQUIN COUNTY MOSQUITO ABATEMENT DISTRICT

MAIN OFFICE: 5503 SOUTH AIRPORT WAY, STOCKTON, CA 95206 - (209) 982-4675
200 BECKMAN ROAD, LODI, CA 95240

BOARD OF TRUSTEES

GERALD SCHILBER
PRESIDENT
ESCALON

ALVIN INMAN
VICE PRESIDENT
LODI

DON LAYSON
SECRETARY
STOCKTON

F. CHRISTESEN
LODI

JACK W. CORELL
LODI

FRED DE BENEDETTI
LINDEN

DR. KENNETH ERWIN
MANTECA

ROBERT FULLER
LODI

EDWARD MAGOON
STOCKTON

CHESTER MILLER
TRACY

TERRY MORLEY
RIPON

CHRISTOPHER K. ELEY
LEGAL ADVISOR

JACK V. FIORI
MANAGER

JOHN R. STROH
ASSISTANT MANAGER

RICHARD P. SWARTZELL
ENTOMOLOGIST

RECEIVED

August 22, 1990

AUG 23 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Ms. Kitty Walker, Senior Planner
San Joaquin County Department of Planning and Building
Inspection
1810 E. Hazelton Ave.
Stockton, CA 95205

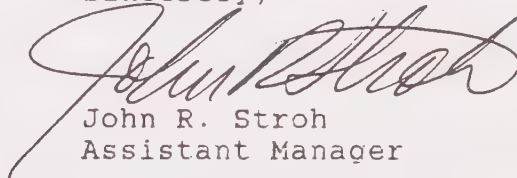
Re: Environmental Impact Report No. ER 91-1

Dear Ms. Walker:

This district has reviewed the initial study for the project Mountain House New Town. Enclosed are the views and concerns regarding the environmental information relative to this agency's responsibility with the proposed project. If possible, this district would like these concerns addressed within the E.I.R. for Mountain House.

Thank you for your attention to these matters.

Sincerely,



John R. Stroh
Assistant Manager

JRS/ca

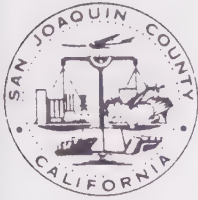
The project site is situated directly on the Alameda, Contra-Costa and San Joaquin County lines. Although all three counties are served by local mosquito abatement programs, it is not known if the control programs in Alameda and Contra Costa counties are adequate enough to prevent transient vector and pest mosquitoes from entering the proposed development. A study is needed to determine the location and type of all active and /or potential mosquito breeding sites within a 2 mile radius of the proposed development to assess the impact, if any, of these mosquito breeding sites.

The study should address the type of mosquitoes found (genus and specie), their respective breeding site and location and the ability of the responsible mosquito abatement district to provide adequate control.

The development is being built in close proximity to the Sacramento-San Joaquin Delta, and the Delta provides a very unique and complex environment that provides for the creation of numerous, naturally-occurring mosquito breeding sites. These sites present several problems to this agency in trying to provide adequate control. Most of these sites are situated in environmentally sensitive areas which prevent the use of most pesticides for control, and the use of biological control agents is short lived and cost prohibitive. Access to these sites is limited and labor intensive. It is generally understood that there is a higher incidence of mosquito activity in the Delta area and that mosquito control is limited in scope and results. Potential habitants of the development should be aware of this condition.

The development has plans for storm drain systems, street gutters, catch basins, and a sewage treatment facility. These sites will be considered potential mosquito breeding sources that require periodic inspection and pesticide application. There are several mitigation measures that can be instituted during the planning and building process to reduce the potential of these sources.

If the creation of a wetlands buffer zone near the Old River is considered for storm water retention and treatment, then a Mosquito Control Management Plan should be created that addresses all environmental concerns and responsibility for mosquito source management. Mosquito control in a "wetlands" environment is very expensive, and the cost of control will inevitably be the responsibility of the wetlands managers.



COUNTY OF SAN JOAQUIN
OFFICE OF EMERGENCY SERVICES

ROOM 610, COURTHOUSE
222 EAST WEBER AVENUE
STOCKTON, CALIFORNIA 95202
TELEPHONE (209) 468-3962
HAZARDOUS MATERIALS DIVISION (209) 468-3969

RONALD E. BALDWIN
COORDINATOR

RECEIVED

AUG 25 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

August 24, 1990

TO: Kitty Walker, Senior Planner
San Joaquin County Department of Planning and Building Inspection

FROM: Kirk Lund, Hazardous Materials Specialist *KL*
San Joaquin County O.E.S.

RE: Comments concerning Mountain House new town and EIR

The "No" answer to 6.C. on page 3 of the initial study indicates that the project would not "create a risk of explosion, release or exposure to hazardous substances, or other dangers to public health and safety." When built, Mountain House will be divided by the Southern Pacific Railroad and share a border with Highway 205. Hazardous material shipments are transported daily on Highway 205 and the Southern Pacific Railroad, and the "risk of explosion, release or exposure to hazardous substances" should be recognized.

With increases in an area's population, the "risk of explosion, release or exposure to hazardous substances" can be expected to increase. Based on state averages, the number of hazardous material incidents and chemical accidents for a community of Mountain House's projected population (28,800) could range from 0 to 20 annually.

Page 19 of the Mountain House General Plan Application addresses police and fire services to be provided by the Community Services District (CSD). The San Joaquin County Hazardous Materials Team (operated by the San Joaquin County Office of Emergency Services) and its services would be available to Mountain House for chemical spills and emergencies without need for a contractual arrangement.

In San Joaquin County, the Office of Emergency Services (OES) administers two programs from Chapter 6.95 §25500 - 25545 of the California Health and Safety Code which regulate the use and handling of hazardous materials. The operation of water and waste treatment facilities like the ones for Mountain House typically involve the use of hazardous materials such as chlorine. Industry and other businesses such as automotive service stations would also be regulated as handlers of hazardous materials.

The Mountain House Public Safety Department or other designated agency could choose to administer Chapter 6.95 §25500 - 25545 of the California Health and Safety Code within its own jurisdiction as long as the requirements in Section 25502 are satisfied.

Special requirements apply when a business or facility handles extremely hazardous substances (ie. chlorine, ammonia, sulfuric acid) and is located within 1,000 feet of a school. For example, the Mountain House Land Use Plan indicates that the Sewer/Waste/Utility Area will be located adjacent to an elementary school. In addition, more than one light industrial zone is within 1,000 feet of elementary school sites, and restrictions upon what type of industry could occupy these areas are also a possibility.

Potential handlers of hazardous materials should inquire about Hazardous Materials Management Plans (HMMP) and Risk Management and Prevention Programs (RMPP) at the San Joaquin County Office of Emergency Services (209) 468-3969.

If I can be of further assistance, then please contact me at 468-3969.



ENRY M. HIRATA
DIRECTOR

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS
P O BOX 1810 - 1810 E. HAZELTON AVENUE
STOCKTON, CALIFORNIA 95201
(209) 468-3000

EUGENE DELUCCHI
CHIEF DEPUTY DIRECTOR

THOMAS R. FLINN
DEPUTY DIRECTOR

MANUEL LOPEZ
DEPUTY DIRECTOR

RICHARD C. PAYNE
DEPUTY DIRECTOR

M E M O R A N D U M


RECEIVED

AUG 30 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

August 30, 1990

TO: Kitty Walker
Senior Planner

FROM: Ron Palmquist 
Environmental Coordinator

SUBJECT: MOUNTAIN HOUSE NEW TOWN - NOP

The following comments are submitted with respect to this department's review of the above mentioned environmental document:

Flood Control/Storm Drainage

A hydrologic and hydraulic study should be conducted for Mountain House Creek. That channel should be improved to provide 100-year flood protection in accordance with FEMA Requirements and a flood control zone should be established for channel maintenance. A Letter of Map Revision should be required to remove the flooded areas from FEMA's maps. An early flood warning system (Alert) should be installed due to the potential for flash flood conditions on Mountain House Creek. Old River levee improvements should provide 100-year flood protection in accordance with FEMA requirements and regulations.

The storm drainage/hydrology study should include a study of historic flows and insure that flows in natural channels that have been obliterated by farming operations are accounted for in the overall drainage plan. The system should be designed so that it will comply with known NPDES requirements that will be effective in the future so that all phases of the project can be easily integrated into the system.

Solid Waste

The application report addressed waste generation in appendix F but did not address waste diversion, storage, collection, and records. Please refer to the attached document "Development Waste Plan Format", for additional specific requirements.

Traffic/Transportation

The EIR should include a traffic study to determine traffic impacts and identify mitigations. The minimum scope of the detailed traffic study should cover the area from Corral Hollow Road to Mountain House Road and from Old River to I-580. Consideration of a new interchange on I-205 and I-580 with an interconnecting major arterial (possibly Lammers Road) should be included. Due to the size of the project, the effect on the regional (county wide) road system should be studied.

The EIR will need to address the regional impacts of land use patterns that promote the automobile as the primary mode of transportation. The claim has been made that the Mountain House Transit Plan will provide a convenient and cost effective transit alternative to auto use for internal and external trips, especially for commuters. The proposed transit services include bus service, rail transit, BART, and light rail. The land use program indicates that nearly one-half of the projected population will be accommodated in low density (3-4 du/ac) residential, with another one-fourth in medium density (6-8 du/ac) residential. These projections do not seem to provide the minimum necessary residential density that would make the above mentioned alternatives feasible.

With almost 50% of daily trips generated leaving the project, traffic impacts on I-580 and I-205 will need to be addressed in greater detail. The EIR should give careful consideration to practical transit alternatives that could be successfully supported by the project. As it appears now, the project will not accommodate or support even bus service, as a minimal alternative, and will therefore increase automobile traffic in an already congested environment.

Water

A plan for water conservation in the event of reduced delivery (rationing) by the provider should be included. Identification of alternative source(s) should be made in order to provide a supply of water should the California Aqueduct should be out of service for repairs or other reasons. Provisions to expand water service on a regional basis should be investigated due to the existing ground water problems in the area.

Waste Water

The number of projects proposed in the west Tracy area could lead to a proliferation of package and/or other small treatment plants. A study of the west Tracy area should be completed to determine if a sub-regional tertiary plant is feasible. Land disposal in this area is very land intensive due to the low permeability of the soils and the storage volume needed for periods of low evapotranspiration.



HENRY M. HIRATA
DIRECTOR

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS
P O BOX 1810 - 1810 E HAZELTON AVENUE
STOCKTON CALIFORNIA 95201
(209) 468-3000

EUGENE DELUCCHI
CHIEF DEPUTY DIRECTOR

THOMAS R. FLINN
DEPUTY DIRECTOR

MANUEL LOPEZ
DEPUTY DIRECTOR

RICHARD C. PAYNE
DEPUTY DIRECTOR

SAN JOAQUIN COUNTY
WASTE PLAN FORMAT FOR DEVELOPMENT PROJECTS

I. Waste Generation Analysis

- A. Discussion of types of solid and hazardous waste that will be produced.
- B. Estimation of annual quantities of solid and hazardous waste that will be produced, per waste type identified in Section I, A above.

II. Waste Diversion Analysis

- A. Discussion of types of solid and hazardous waste that will be diverted from disposal by recycling methods.
- B. Discussion of processes that will be used that reduce the amount of waste that would normally be generated.
- C. Estimation of the annual quantity of solid and hazardous waste that will be diverted, per waste type identified in Section II, A & B above.
- D. Discussion of market availability for diverted materials.

III. Waste Storage

Discussion of methods that will be used to store solid and hazardous waste onsite, prior to collection for diversion or disposal, including discussion of types of storage containers to be used, location of storage areas on site plan, and access to storage areas by collection vehicles.

IV. Waste Collection

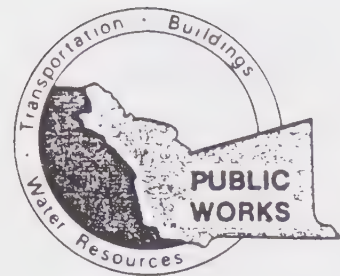
Discussion of methods that will be used to collect and transport recyclable materials to market and solid and hazardous waste to disposal sites.

V. Waste Disposal

Discussion of disposal facilities that will be used for disposal of solid and hazardous wastes that are produced, including identification of the facilities and impact on the facilities by the increased waste quantities.

VI. Records

Discussion of methods used to report to County, the annual quantities of waste diverted and or disposed.



COUNTY OF ALAMEDA
PUBLIC WORKS AGENCY

399 Elmhurst Street • Hayward, CA 94544-1395
(415) 670-5480

August 28, 1990

RECEIVED

AUG 30 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Ms. Kitty Walker, Senior Planner
San Joaquin County Department of
Planning and Building Inspection
1810 E. Hazelton Avenue
Stockton, CA 95205

Dear Ms. Walker:

SUBJECT: NOTICE OF PREPARATION, ENVIRONMENTAL IMPACT REPORT NO.
ER-91-1, MOUNTAIN HOUSE NEW TOWN, SAN JOAQUIN COUNTY.

We reviewed the Notice of Preparation, Environmental Impact Report ER-91-1 for the Mountain House New Town, San Joaquin County. Our comments listed below should be addressed in the project EIR.

1. Project trip generation estimates should include interim values including the years 1995, 2000, 2005, and 2010.
2. The EIR should address the impacts of the proposed development on transportation facilities in Alameda County (roadways, intersections, freeways, transit). All roadways and intersections in proximity to this proposed development will be impacted and should be addressed.

I-580 has limited widening potential due to the type of construction used through the Altamont Pass. This will place greater emphasis on the use of Altamont Pass Road as a bypass route to areas within Alameda County.

Alameda County's light rail corridor, BART extension to Livermore, bus lanes, etc. should be addressed for impacts and use by residents of this proposed development.


3. As I-580 becomes more congested, overflow traffic will spill onto County roadways, specifically Altamont Pass Road. Mitigation to these roadways due to this spill-over should be addressed.
4. Traffic from this development may impact many local farm roadways at the easterly end of Alameda County. Such traffic may be recreational, freeway bypass, or disoriented motorists. Roadway improvements should be scheduled as a part of this project approval.

August 28, 1990

5. Provide for the continuity of bicycle routes between Counties.
6. Indicate cost measures necessary to mitigate the impacts of the development on transportation facilities in Alameda County.
7. Evaluate the assessment of the consistency of the proposed transportation mitigation measures with the Alameda County Transportation plan, now in preparation.
8. Address the realignment of Vasco Road since traffic impacts may include the same roadways impacted by this development.

Should you have any questions regarding our comments, please contact Art Carrera at (415) 670-5921. Once the draft EIR is published, we would appreciate 3-4 copies for review.

Very truly yours,


JACK A. LINDLEY
SUPERVISING CIVIL ENGINEER

 AC:sb

cc: Adolph Martinelli
Rick Baker
Dennis Fay

San Joaquin



Alameda County Sheriff's Department

COURTHOUSE, 1225 FALLON STREET, ROOM 103, OAKLAND, CA 94612-4381

AUG 22 1 29 PM '90

CHARLES C. PLUMMER, SHERIFF

MARSHAL - CORONER - PUBLIC ADMINISTRATOR
DIRECTOR OF EMERGENCY SERVICES
ALAMEDA COUNTY
PLANNING DEPARTMENT
HAYWARD, CALIFORNIA

(415)272-6900

RECEIVED

August 20, 1990

AUG 23 1990

Kitty Walker
Planning Department
399 Elmhurst Street
Hayward, CA 94544

SAN JOAQUIN COUNTY
PLANNING DIVISION

Subject: General Plan for Mountain House New Town

The Sheriff's Department has no objections to this project as described, provided the following police concerns are met:

1. All roadways be constructed of an all-weather type surface and made wide enough to permit easy maneuverability by emergency vehicles.
2. Any alarm systems be installed by a state licensed installer and conform to all state and local alarm ordinance specifications.
3. All building or office units be fitted with sturdy doors equipped with a dead-bolt type lock.
4. Address should be strategically located for easy reading by responding emergency personnel.

The demands for police services at the above location will reduce police services in other areas of the County and place an added burden on an already busy patrol unit. The unincorporated areas of Alameda County have an average of 2.49 people per household. Using the formula of 1.25 police officers per 1,000 people this project would require an increase in manpower of officers at a fiscal cost of \$11,560.60. This figure is based on the current salary of \$52,971.93 per officer. This does not include cost calculations for support services and supplies. Each new project does not by itself create a law enforcement problem, however, with the total number of new projects there will be a need to increase our ability to respond to requests for police services.

Charles C. Plummer
Sheriff

G.F. Slater, Acting Commander
Criminal Division

GFS:jlc
0155R-27

cc: D.B. Ewert, Deputy

10.3-60

Community
Development
Department

County Administration Building
11 Pine Street
1st Floor, North Wing
Martinez, California 94553-0095

Phone: (415) 646-2035

Contra
Costa
County



Harvey E. Bragdon
Director of Community Development

September 12, 1990

RECEIVED

SEP 17 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Ms. Kitty Walker, Senior Planner
San Joaquin County Department of
Planning and Building Inspection
1810 E. Hazelton Avenue
Stockton, CA 95205

Dear Ms. Walker:

Thank you for the opportunity to review the Notice of Preparation on the Mountain Horse New Town. The Initial Study makes it clear that most items listed are deemed to be environmentally significant and will be covered in the Draft EIR. For that reason I have few comments to make on the scope as indicated. There are a few areas, however, I want to ensure aren't overlooked.

On page 8 of the NOP it states that Mountain House "will receive raw water from Byron - Bethany Irrigation District. Areas not currently within BBID will be annexed to the District." The last time we checked, Contra Costa County had the majority assessed valuation for this District. If that is still the case then the project description needs to be amended to list the Local Agency Formation Commission of Contra Costa County as the agency which has jurisdictions over annexations to BBID. That agency could decide to hear those applications itself or to grant a transfer of jurisdiction to another LAFCO. The Draft EIR needs to verify which LAFCO has initial jurisdiction and relate impacts to that agency's policy requirements.

Additionally, the DEIR needs to analyze the impacts of this New Town on the portion of BBID which serves Contra Costa County. The current water rights allocation needs to be discussed for that district and related to anticipated water consumption or the New Town.

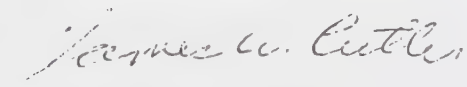
The impact of Mountain House needs to be discussed in terms of water quality as it relates to Old River and the nearby state water project facilities. Water degradation due to urban runoff is a concern. The relationship of water quality to the Contra Costa Water District's potential relocation of their intake to nearer to Clifton Court Forebay is a particular concern and needs engineering and hydrological analysis.

Obviously, our County has major concerns dealing with transportation impacts of this project; your initial study indicates a full traffic study shall be preformed. Alameda, Contra Costa and the Contra Costa Water District have been working jointly to relocate Vasco Road as part of the Las Vaqueros Reservoir project. Since that project is reasonably foreseeable, your traffic consultants needs to reflect this in their traffic model.

Lastly, the Draft EIR should analyze and anticipate major impacts on the recreational resources of the area, especially Delta boat traffic. The DEIR needs to examine the effects of increased boat traffic on Old River including the areas within our County. Special studies on this impact are required. The impact on our Marine Patrol (Sherriff's Office) needs to be discussed.

We look forward to being active participant in the review of this project.

Sincerely,



James W. Cutler
Assistant Director,
Comprehensive Planning

cc: Alameda Co. Planning
CCC LAFCO
CCWD - Dennis Pasili

JWC:cm
cjc10/walker.ltr



Stanislaus County

Department of Environmental Resources

Air Pollution Control District

1716 Morgan Road
Modesto, California 95351
(209) 525-4152

September 7, 1990

RECEIVED

SEP 10 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Kitty Walker, Senior Planner
San Joaquin Department of
Planning and Building Inspection
1810 E. Hazelton Avenue
Stockton, CA 95205

RE: Notice of Preparation for Environmental Impact Report No. ER-91-1, Mountain House New Town

The air quality section of the proposed EIR for the Mountain House project should address not only the local impact of increased carbon monoxide but the regional impacts of increased ozone and PM_{10} . The increases in emissions of reactive organic gases, oxides of nitrogen and PM_{10} from this development and its predictable transport southward will affect attainment of air quality standards in the rest of the San Joaquin Valley.

The EIR should address the following concerns:

1. An air quality analysis should be done for the EIR that quantifies the amount of emissions that the indirect sources in project of this size would produce. The modeling program Urbemis is usually used for this type of analysis.
2. Mitigation measures should be included in the EIR that reduce the emission of ROG, NO_x , and PM_{10} . A monitoring program to ensure their effectiveness should also be included. Offsite offsets should also be considered to reduce the impact of these emissions. (Stanislaus County APCD is currently requesting that all large residential development projects in its jurisdiction mitigate or offset all emissions.)

Thank you for the opportunity to comment on this project. If you have any questions please call me at (209) 525-4152.

A handwritten signature in dark ink, appearing to read "David L. Jones".

DAVID L. JONES
AIR POLLUTION CONTROL SPECIALIST

cc: San Joaquin Air Pollution Control District

LAMMERSVILLE SCHOOL DISTRICT
16555 WEST VON SOSTEN ROAD
TRACY, CALIFORNIA 95376

September 4, 1990

Ms. Kitty Walker, Senior Planner
San Joaquin County Department of
Planning and Building Inspection
1810 East Hazelton Avenue
Stockton, CA 95205

Dear Ms. Walker:

This letter is being written on behalf of the Lammersville Elementary School District Board of Trustees. The proposed Mountain House New Town is located within the boundaries of this elementary school district. Questions regarding high school facilities will need to be addressed by Tracy Joint Union High School District.

The developers of the Mt. House New Town have communicated with the district on several occasions but have been reluctant to work with this district concerning projections of enrollment, build out schedules, and grade span levels for elementary schools. The developers have ignored this district's "Facility Planning and Development Guidelines." Further communication and mutual planning need to take place between the developer and the district prior to the formulation of an E.I.R. The developers consultant will need to work with the district on at least the following:

- * estimated student population at build out
- * estimated student population by staged development
- * school site size
- * school site locations
- * school grade span
- * capital outlay for other than school campuses
- * funding mechanisms for all capital outlay

I or consultants for the district will be available to work with the developer's consultant in developing the E.I.R. We will cooperate with the developers to ensure the District's needs are provided for and attempt to address any other concerns dealing with the elementary schools in this New Town Proposal.

If you should have any questions, please contact me at 835-0138.

Sincerely,



Kenneth A. Olds
Superintendent



**CONTRA COSTA
WATER DISTRICT**

1331 Concord Avenue
P.O. Box H20
Concord, CA 94524
(415) 674-8000 FAX (415) 674-8122

(415) 439-9169 Toll Free from
Eastern Contra Costa County

RECEIVED

SEP 4 1990

**SAN JOAQUIN COUNTY
PLANNING DIVISION**

ctors
e Boatmun
ident

ald E. Butler
President

ald P. Freitas
iel L. Pellegrini
F. Hughey

Seegmiller
eral Manager

August 31, 1990

Kitty Walker, Senior Planner
San Joaquin County Department
of Planning and Building Inspection
1810 E. Hazelton Avenue
Stockton, CA 95205

Dear Ms. Walker:

Thank you for the opportunity to review and provide input to the Notice of Preparation (NOP) for the Mountain House New Town EIR.

It is noted on page 8 that the sewage treatment plant would be capable of recycling 60 to 70 percent of the total wastewater generation. With an increased awareness of the importance of water conservation and reuse in California, large scale community development must plan and design for "closed" systems and this proposal is to be congratulated for setting a specific objective in this direction.


The intent to discharge treated wastewater into Old River should be carefully evaluated in the EIR, not only on the potential effects in biological resources, but also on existing and proposed municipal water supplies used by Bay Area communities (which serve over one million people in Contra Costa, Alameda and Santa Clara counties).

The EIR should address the impacts of the treated discharge on the water quality of existing supplies and those that are reasonably foreseeable, such as the Los Vaqueros Project. Effects of organic, inorganic and biological pollution must be considered. In addition, the EIR should address the effect of spills and overflows, both of treated and untreated sewage, on the water quality of the existing and proposed municipal supplies. Tertiary treatment should be considered as an alternative. Cumulative impacts of this project with those that are reasonably foreseeable, such as the South Delta Water Management Program, should be considered.

Kitty Walker, Senior Planner
Mountain House New Town EIR
August 31, 1990

Again, we have appreciated receiving the NOP and look forward to receiving a copy of the Draft EIR. Should you have any questions or need further information on the Los Vaqueros Project, please contact Dennis Pisila, Utility Planner at 415/674-8119.

Kindest regards,
CONTRA COSTA WATER DISTRICT

for 
Ed Seegmiller
General Manager

ES/DP/GG:ps



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

ALAMEDA COUNTY
Edward R. Campbell
Shirley J. Campbell
Loni Hancock
Frank H. Ogawa

CONTRA COSTA COUNTY
Paul L. Cooper
(Vice Chairperson)
Sunne Wright McPeak
Tom Powers

MARIN COUNTY
Al Aramburu

NAPA COUNTY
Bob White

SAN FRANCISCO COUNTY
Harry G. Britt
Jim Gonzalez

SAN MATEO COUNTY
Gus J. Nicolopoulos
Anna Eshoo
(Secretary)

SANTA CLARA COUNTY
Martha Clevenger
Rod Diridon
Roberta H. Hughan
Susanne Wilson

SOLANO COUNTY
Osby Davis
(Chairperson)

SONOMA COUNTY
Jim Harberson
Patricia Hilligoss

September 4, 1990

San Joaquin County
Department of Planning and
Building Inspection
1810 E. Hazelton Avenue
Stockton, California 95205

RECEIVED

SEP 10 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Attention: Kitty Walker

Dear Ms. Walker:

We have reviewed the Notice of Preparation of a Draft Environmental Impact Report (EIR) for the proposed Mountain House New Town project. The project consists of a General Plan amendment to redesignate approximately 4,670 acres in western San Joaquin County from Agriculture to New Town. The redesignation would permit the development of 12,500 dwelling units, 6.5 million square feet of commercial, light industrial and office space, 10 schools, a golf course and marina, water and sewage treatment plants, and 721 acres of parks and other open space. The target population of the new town is 35,500 persons. The site of the proposed project is along the San Joaquin and Alameda county border and is bounded by Interstate 205 to the south, Old River to the north, and Patterson Pass Road to the east.

Although the proposed project is not located within the Bay Area Air Quality Management District, we are concerned that the Mountain House New Town project could contribute to air quality problems in the Bay Area, particularly the Tri-Valley and eastern Contra Costa County areas. The initial study that accompanied the Notice of Preparation indicates that an estimated 33,000 vehicles per day are expected to travel to and from Mountain House and the Bay Area. Vehicular emissions are a major source of air pollution.

The Notice of Preparation indicates that the Draft EIR will include an air quality impact analysis. We recommend that the analysis take into account any impacts the project may have on the Bay Area Air Quality Management District. Cumulative impacts of all predictable development in the vicinity of the project and in eastern Contra Costa and Alameda Counties should also be included in the analysis. The cities of Livermore and Dublin are currently undertaking planning efforts for the expansion of their urban areas along the Interstate 580 corridor; the County of Contra Costa is updating its General Plan. We urge that they be contacted so that

10.3-67

their development plans can be incorporated in the discussions in the Draft EIR. Demographic and transportation data for Bay Area counties and municipalities are also available from the Association of Bay Area Governments and the Metropolitan Transportation Commission.

We also recommend that any impacts on air quality be fully mitigated. We are particularly interested in transportation related mitigations. Growth in the northern parts of the San Joaquin Valley during the past several years has been increasing the number of commuters between Valley communities and Bay Area workplaces. Many of these commuters travel in single occupant vehicles. These increasing levels of single occupant vehicle trips could cause significant impacts on air quality in both areas. It is therefore important that measures aimed at reducing the number of single occupant commute trips be given serious consideration in the Draft EIR. Where possible, the effectiveness of any proposed mitigations in reducing air quality impacts should be quantified.

If you have any questions regarding the above, please contact Michael Murphy of our Environmental Review staff, at (415) 771-6000, extension 133.

Sincerely,



Milton Feldstein
Air Pollution Control Officer

cc: Sally Germain, ABAG
John Shaw, MTC
Gary Adams, CALTRANS
Abdul Salaam, SJCAPCD

MF:MM:lm

ROBIN T. BLAKLEY
ASSISTANT SUPERINTENDENT
FOR BUSINESS

TRACY PUBLIC SCHOOLS

315 EAST ELEVENTH STREET
TRACY, CALIFORNIA 95376-4095
ROBERT W. BAUM, ED. D., SUPERINTENDENT

DOUGLAS M. GEPHART
ASSISTANT SUPERINTENDENT
FOR PERSONNEL

ROBERT W. PRICE
ASSISTANT SUPERINTENDENT
FOR INSTRUCTION

RAY M. STRONG
ASSISTANT SUPERINTENDENT
FOR STUDENT SERVICES

August 28, 1990

RECEIVED

AUG 29 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Ms. Kitty Walker, Senior Planner
San Joaquin County Department of
Planning and Building Inspection
1810 East Hazelton Avenue
Stockton, CA 95205

RE: Notice of Preparation of EIR for
Mountain House New Town (No. ER-91-1)

Dear Ms. Walker:

This letter is being written on behalf of the Board of Trustees of the Tracy Joint Union High School District only. The Mountain House New Town proposal does not fall within the boundaries of the Tracy Elementary District, and therefore, scoping concerns related to the provision of school facilities for children in grades K-8 would need to be solicited from the Mountain House and Lammersville Elementary Districts.

The fact that the need for new schools was covered in the initial study and found to be a significant impact of this project was appreciated by the District; however, there are numerous issues that should be addressed in the EIR. At a minimum these issues would include: estimated student population from full buildout, estimated student population at each stage of housing development, site size, site location(s), grade span of school, need for capital outlay items other than school campuses, and funding mechanisms for all capital outlay. The majority of these items are covered by existing school boards policies; however, the appropriate location of school facilities needs in-depth analysis, informed by a fully rendered map of the entire proposal including streets, other amenities, and notations regarding the staging of the housing developments.

10.3-69

August 28, 1990 - Notice of Preparation of EIR
Page 2

I am available to the consultant developing the EIR at 831-5032, or by mail. I will be happy to cooperate with them in every way possible to establish the District's needs in all of these matters, as well as any other issues that may concern them.

Thank you for your attention in this matter.

Sincerely,

A handwritten signature in cursive script that reads "Tony Bernakis". The signature is written in dark ink and is positioned below the word "Sincerely,".

Tony Bernakis, Director
Facilities Development

TB:bn

CITY OF TRACY

August 28, 1990

RECEIVED

AUG 29 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Ms. Kitty Walker
Senior Planner
San Joaquin County
1810 E. Hazelton Avenue
Stockton, CA 95205

Dear Ms. Walker:

Subject: Mountain House Notice of Preparation

Thank you for the opportunity to review the Mountain House Notice of Preparation. We attended both scoping meetings hosted by OPR on August 17, 1990 and San Joaquin County on August 21, 1990. The cumulative comments from these meetings are adequate to express our concerns about the project. However, we do wish to emphasize the need for in depth analysis and exploration of alternatives regarding the following items:

1. Economic competition, land use conflicts, duplication of services, and growth inducing impacts of locating a second urban area near the City of Tracy. Multiple jurisdictions typically fill in the distance between each other, especially along transportation corridors. Areas such as San Francisco to San Jose along Highways 101 and 280, Sacramento to Auburn along I-80, Milpitas to Oakland along Highway 880 are northern California examples. The proposed project provides the same possibility along I-205.
2. Adequacy of urban services and a high level of development standards needs through analysis. Typically the adequacy of urban services is comprised to save short term costs to the detriment of long term service levels and replacement/maintenance costs. Development standards are typically not sufficiently equal between jurisdictions thus causing discrepancies and inequality in costs and quality.
3. Development financing and long term funding is often insufficient. The tendency to reduce up-front expenditures builds in a historic burden for future residents. The tendency to not include operational and maintenance costs leave projects at a disadvantage as they mature.

Letter to Ms. Kitty Walker
Subject: Mt. House NOP
August 28, 1990
Page 2

4. Mountain House as a new town should not be based on old technology. Many ideas expressed at the scoping meetings were traditional methods to deal with urban issues. Alternatives such as integrating treated wastewater into all landscaping irrigation, built in solid waste recycling features, electronic cottage employment, mandatory mass transit, mandatory low and moderate income housing etc., need to be explored for every environmental and development issue.

We appreciate your efforts to keep us informed. We will continue a high level of participation throughout the process. If staff can be of any assistance, please do not hesitate to call upon us.

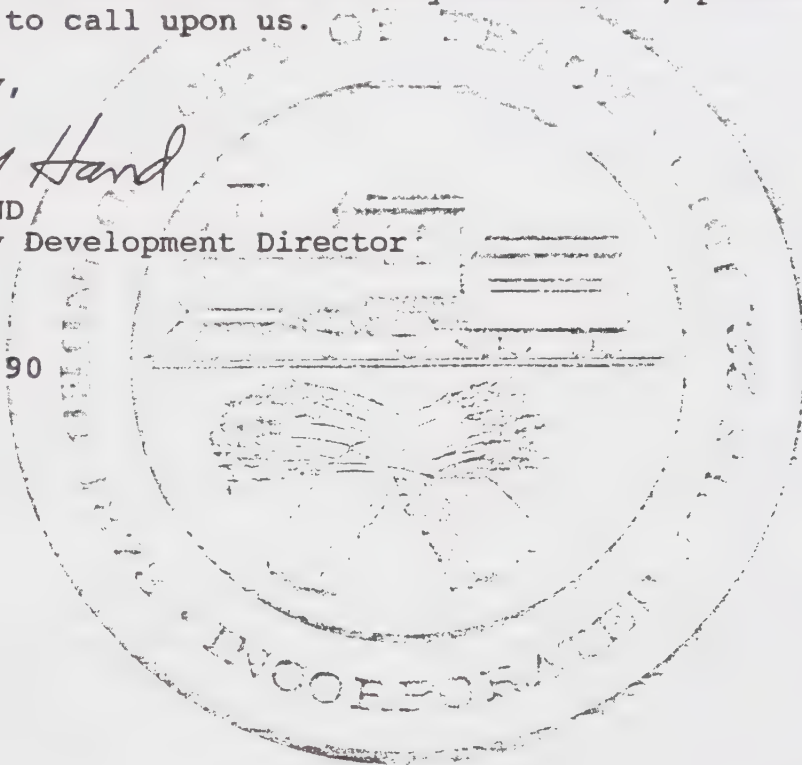
Sincerely,



BARRY HAND
Community Development Director

BH/smf

s09-0827.90
Misc6



Pacific Gas and Electric Company

Stockton Division
4040 West Lane
P.O. Box 930
Stockton, CA 95201
209/942-1728

RECEIVED

SEP 4 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

August 30, 1990

San Joaquin County
Department of Planning and
Building Inspection
1810 E. Hazelton Avenue
Stockton, CA 95205

Attention: Ms. Kitty Walker,
Senior Planner

Gentlemen:

Re: N.O.P. E.I.R. No. ER-91-1, Mountain House New Town

This is in reference to your letter dated July 31, 1990 regarding the N.O.P. for the E.I.R. for the Mountain House New Town.

PG&E has major transmission facilities that traverse the proposed project. These facilities require an open corridor for their operation and maintenance.

The proposal doesn't appear to take these facilities into consideration in the layout of the New Town.

These facilities consist of:

1. The Weber-Herdlyn 60 KV Line #268 (30-foot-wide R/W).
2. The Rio Oso-Tesla 230 KV Line #191 (75-foot-wide R/W).
3. The unoccupied R/W for the Rancho Seco-Tesla 500 KV (200-foot-wide R/W).
4. The Stan Pac #2 26-inch gas line.

On Page 8, D., natural gas and electric should be addressed under Services.

Thank you for the opportunity to review the N.O.P. Further review

San Joaquin County
Department of Planning and
Building Inspection
Page 2

will be required when the draft environmental documents are distributed.

Sincerely,

A handwritten signature in dark ink, appearing to read "S. V. Koop" with a stylized flourish at the end.

S. V. Koop
Division Land Supervisor

GAPalermo:mc



DELTA-SIERRA GROUP

MOTHER LODGE CHAPTER

SIERRA CLUB

RECEIVED

AUG 22 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION



August 20, 1990

Kitty Walker, Senior Planner
San Joaquin County Department of Planning
and Building Inspection
1810 E. Hazelton Ave.
Stockton, Ca. 95205

Dear Kitty:

We believe that, among other things, the following should be addressed in the EIR for the "Mountain House New Town."

- 1) Considering the poor air quality situation in the county (Carbon monoxide, ozone) some SERIOUS study should be made of the effects that the project will have both OFF SITE and on site.
- 2) The applicant estimates that 52% of trips will be "on site". What are the lengths of the trips both on and off site? Who will pay for needed highway interchange improvements? Who will pay for necessary improvements in nearby county and state roads impacted by this project?
- 3) A serious problem exists with the CLAIM that the New Town will "Balance jobs and housing." The nearby new subdivisions of Tracy have NOT done that and Tracy is now having financial problems. Are homes in the New Town only going to be sold to those who work in the New Town? Are only a certain number of homes going to be sold before a certain amount of commercial and industrial land is developed? Otherwise this is a transparently hollow claim as most homes will be sold to those who already work elsewhere. Many of these new homeowners will be those who work in other counties and find a less expensive home in this development. Why will this development not cause the jobs-housing balance to be even worse than it now is?
- 4) The claim that this area is marginal farmland is likewise suspect since the land is now in agricultural production. With loss of productive land in other areas of urban sprawl, this Capability I & II irrigated farmland will be in more demand for agricultural production in the future. Will the applicant be held responsible for part of the future increase in food prices?
- 5) Why was the Alameda County portion of this project dropped? Could it be that San Joaquin County believes that it will somehow gain revenues in excess of service costs? If this is true, will the economic study of the project cost out ALL possibilities including that of the project should NONE of the industrial and few of the commercial portions be successful?
- 6) The designation of a small part of the Mountain House Creek linear park as a "River Front Park" goes against the basic principals of truth in labeling. It appears that more than...

90% of the riverfront on Old River will be residential development. This area is now in riparian wetland vegetation and is known habitat of sensitive species. President Bush favors no net loss of wetlands. 95% of the riparian habitat in the Central Valley has already been destroyed. What are the plans for mitigation of the loss of this important wetland area?

- 7) Many statements in the "Executive Summary" are very misleading. The whole thing should be revised to provide, at the minimum some internal consistency. FOR EXAMPLE: the statement is made on Page 2: "A year-long, four season monitoring program performed by qualified biologists revealed that no threatened or endangered wildlife species are known to permanently reside on the project site." BUT in the Appendix 1, Biological Resources, the following statements are made:
- a) "...between May 30 and June 1, 1990..." This apparently means that at least part of the area was studied for only 3 days.
 - b) The maps and Appendix A refer to threatened and endangered species which are known to, and may occur on the site." Does this mean that because they wander or migrate, they are not considered to be permanent residents? Isn't a bird which nests here (Swainsons Hawk) a permanent resident?
 - c) The map shows certain species (Swainsons Hawk, Burrowing Owl etc) to be on site and the Appendix lists the same species as being "near site"?

What mitigation is being proposed for the loss of habitat of these threatened and endangered species?

- 8) There should be a section in all EIR's for the residential developments proposed in the County which would address all cumulative effects of such developments on air quality, jobs, transportation, etc, etc. The County General Plan is not adequate to this task as it is too general and may be seriously weakened and compromised as a result of pressure groups.

Reviewing an EIR is like looking a one piece of a large puzzle which pictures the sprawl now creeping over the coast ranges from the Bay Area as it seeks areas of less resistance.

Thank you for the opportunity to give some input into this process.


Mr. S.K. Stocking, Conservation Co:chair
Delta-Sierra Group Sierra Club
236 W. Knoles Way, Stockton Ca. 95204

Mr. and Mrs. R. A. Andresen
5555 Montgomery Drive #L-3
Santa Rosa, CA 95409

Aug. 16, 1990

RECEIVED

AUG 20 1990

Ms. Kitty walker Senior Planner

San Joaquin County Dept. of Planning and Building Inspection
1810 E. Hazelton Ave.
Stockton, Ca. 95205

SAN JOAQUIN COUNTY
PLANNING DIVISION

Dear Ms. Walker:

Thank you for sending me a copy of "Notice of preparation
EIR NoER_91-1 Mountain House- New Town- San Joaquin County.

I would like to bring to your attention a few items concerning the "Town"
proposal:

1 The proposal covers 7.3 square miles in area. Almost all of this area is
prime agricultural land except a very small area used for dry land farming.
See attachment 7 of the report. This is a serious loss of prime agricultural land
and should not be permitted.

2. The city of Tracy will suffer a negative impact by a) loss of business
to a nearby commercial center b) loss of service industry to competition.
c) competition for utility services in a commercial area.

3. The growth of housing along the Old River is abnormal. It transfers
tranquil beautiful river sides into an urban busy boat basin housing area.
Added noise to the area should be considered as well as bird and animal habitat.

4. The tabulation pg.3 "Total Commercial" given 568.9 A at 6,472,088 sq. ft.
is incorrect.

5. For the medium and High density homes the number of stories should be given.
The high density homes undoubtedly will be multistory and their appearance on
raised fill should be carefully reviewed.

6. Sewers No mention is made of where the 60 to 70 percent recycled water
would be used, No golf course is available to use this water. Waste water discharge
to the Old River is proposed. The treating plant should have tertiary treatment
if it is to discharge to the river. Additional contamination should be
prohibited. Also sufficient holding capacity should be provided in case of plant
breakdown so untreated affluent is not discharged.

7. Surface Hydrology : There will be much more runoff from urban development than presently exists with farm land. Storm drains are planned to discharge into Old River. The runoff will contain pollutants and other undesirable materials. River water is now used for irrigation and this discharge is an undesirable feature.
8. The proposed Marina will use land from excavation. How will the banks of this proposed marina be stabilized? Will sheet piling or other means be provided for stability ?
9. The proposed marina will result in boating, water skiing and other aquatic uses. This increased wave action will have a deleterious effect on the river, levees. Are the developers prepared to riprap the sides of the levees to prevent breakdown? An assessment district now funds the normal loss of embankment. Increased population will cause damage far beyond what the present land owners do. Noise from boating may become a serious consideration.
10. Discovery Bay is not too distant and it continues to expand. Do we need another development nearer Tracy ?

Sincerely Yours,

Raymond A. Andresen
Raymond A Andresen

5555 Montgomery Drive L3
Santa Rosa, Ca. 95409

Farm located on Finck Rd., Tracy , Ca.

Judith A. Bianchi, Executrix-Trustee
Robert A. Bianchi/Judith A. Bianchi Family Trust
350 Via Concha
Aptos, CA 95003

August 29, 1990

RECEIVED

Kitty Walker, Senior Planner
San Joaquin County
Department of Planning & Building Inspection
1810 East Hazelton Avenue
Stockton, CA 95205

AUG 30 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Subject: Response to Notice of Preparation
EIR NO. ER. 91-1

Dear Mrs. Walker:

I am the Trustee of the Robert A. Bianchi and Judith A. Bianchi Family Trust and manage the 540 acres of productive farm land on the northside of Old River, APN 189-050-23-0, 189-050-34-7, 189-050-33-9, and 189-050-42-0. It is important that the San Joaquin County Planning Department realize that the project known as Mountain House New Town could have serious consequences for property owners on either side of Old River. Because of the proximity of our land to the the New Town, it is essential that the EIR should carefully analyze the agricultural land uses on the northside of Old River.

The EIR should analyze the potential impacts to the water quality in the Old River and to groundwater from a runoff from the New Town, from any discharge from the proposed wastewater treatment facilities, and from any marina related activities in the river. Will the Old River remain an acceptable source of water for domestic and agricultural uses? We, alone, irrigate over 500 acres from the river and are concerned not only about the quality but also the quantity of water. There are other farm lands at risk in the area also.

The EIR should analyze and document all the water rights and future water use for the subject property, the agricultural lands lying north of Old River, and the Byron-Bethany Irrigation District. Are all the water rights being used? What is the projected utilization of water rights assuming the project is built out? It's important to know how much water is available per year using a long-term average and, more importantly, how much is available using a drought year average. If this project is built, will there be water shortages for any of the agricultural users??? Will this project cause water use to exceed sustained yield in any one year?

Another thought: the levees are fragile and with increased boat traffic will undoubtedly need expensive attention. Who ultimately pays that bill?

In closing, it is extremely important that the EIR fully analyze and document all the possible impacts of this project. Please place me on all mailing lists for documents. Also, I would like to have the current mailing list, particularly of all government agencies (with names of contact persons) who receive the NOP. I am sure I will have more comments later as I review the EIR documents. Thank you.

Respectfully,

Judith Bianchi-Burick

Judith A. Bianchi-Burick, Trustee

cc: Files

10.3-79

August 28, 1990

RECEIVED

AUG 31 1990

Kathy Walker
Senior Planner
San Joaquin County

SAN JOAQUIN COUNTY
PLANNING DIVISION

Dear Ms. Walker;

It is difficult at times to know if the correct behavior is to "Go with the Flow" which is in conflict with personal interests or to press for one's "Rights" as an individual. The Mountain House Project creates one of those times.

The Mountain House Project could be judged the "Best Land Use" by some but it is in direct conflict with my wife and my personal goals and objectives.

For medical reasons, following a heart attack, it was necessary for me to retire earlier than I had planned. We moved to this area expecting space, away from the everyday city life. The area surrounding our home is agriculture protected by the Williamson Act; we have tried to maintain this identity by no fences, by keeping concrete and paving to a minimum and by replanting the orchard with a 150 Almond Trees.

The present zoning precludes much subdivision, very limiting density or any other aggressive changes at least in the current time frame. This suits our needs, goals & objective perfectly.

However, the suggestion of being included and surrounded by the Mountain House Project creates a situations not inkeeping with our expectations. Listed below are some specific concerns:

- 1) We need affordable irrigation water for new trees. What is planned for the availability of irrigation water, the cost , the distribution?
- 2) The present suggested plan is for 3 to 4 residences per acre. Why not go with what has been established by our existence, at min. lot size 1 1/2 to 2 acres?
- 3) What is the "Wet Land Recreation Area?" This concept is a total environment change to what exists. Why? What is the expected impact to my property, the orchard, and the two planned schools adjacent?

- 4) Trimark is by choice paying to have their objectives met. Who pays our costs of dealing with ~~ef dealing with~~ and the intrusion of their project.
- a) The cost of attending meetings.
 - b) Relocation if the conflict is unbearable.
 - c) The increased traffic and congestion.
 - d) Disruption of the environment (dust and dirt) during construction.

This project will mean profit to Trimark and increased revenue to the county but it means losses to us.

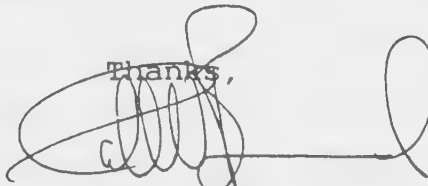
All in all perhaps the project could increase property values but of what value is an increase if selling is the only way 'to recoup the losses incurred in making adjustments to cope.

We are "mandated" by the doctor to keep out of the hustle and bustle, to keep a low profile and to slow down.

Bottom Line - Changing the zoning or land use will severely impact negatively my personal life, health and my family's goals and objectives.

I am asking you to, at this time, give the "little guy" a big say, a big vote in this decision. We are no match for Trimark's Bucks. Maintain the agriculture zoning in this prime agriculture area, expand the housing near and adjacent to the existing cities where the structure is already in place to deal with growth.

WE DON'T WANT OR NEED A NEW TOWN!

Thanks,

Pat Bond

PB/dd

PAT & CAROL BOND
19376 W. GRANTLINE RD
TRACY CA 95376
209 835 8247

Dear Kitty Walker,

We live very near the Mountain House New Town Project on the North East side. We are writing to you in protest of where the Waste Sewage Ponds will be placed.

1. The ponds are next to a waterway that provides irrigation to the area farms.
2. They plan on dumping into Old River.
3. They have not come up with an answer to the sludge problem.
4. The smell will affect us along with several other established residents of this area.

At the present time we have problems with people letting their dogs and other animals run free out here. They also dump them off to fend for themselves, which creates a problem of attacks on livestock. "Just recently there were three of us farmers bothered with this problem and we suffered a loss of (several) animals due to animals being allowed to run free or have been dumped off in this area. This is not the first time this has happened. Due to lack of animal control in this area there will be a greater one if this issue is not looked into. Nothing was brought up at the meetings in regards to this.

RECEIVED

SEP 4 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Sincerely,

C.D. Hurley

Mr. & Mrs. C.D. Hurley
16175 W. Bethany Rd.
Tracy, CA 95376

RECEIVED

August 13, 1990

AUG 22 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Hiram Sibley
6729 Dartmoor Way
San Jose, Ca. 95129
(408) 973-0879

San Joaquin County
Department of Planning and Building Inspection
1810 E. Hazelton Avenue
Stockton, Ca. 95205

Dear Ms. Walker,

After reviewing the plans for the proposed Mountain House New Town; I have several reservations about the proposed plans. First of all the location of the sewer plant. As you know the wind in Tracy blows from the west to the north west. The developer has conviniently located the sewer plant so as to not impact "New Town" with the smell or the possibility of effecting the water table if a spill occurs.

I am a current land owner of property in Tracy as well as Redwood City where my property is down wind from a sewer plant. From this experience I can attest to the continual smell and devaluation of the property. I believe that the sewer plant should be placed on the west side of this development to ensure a satisfactory regulation of odor and waste spills.

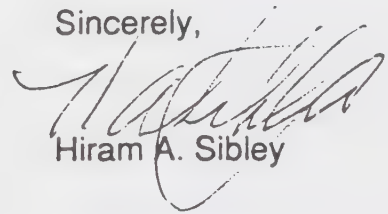
Another concern is the proposed winter sewer overflow planned to be diverted into Old River. I object to this or any pollutant being allowed to flow, at any time, into our river system. At present, the general public is attempting to limit farm waist and chemicals into the water supply.

I also currently own property off MacArthur Road which is located on Old River. So my other concern is that the first part of the development will be on the water, which is the most valuable, then possibly the rest will vacillate. Also the number of boaters on Old River will increase dramatically causing dike damage and leaving current property owners such as myself to bare the burden of the resulting cost.

Please understand that I would consider going to court to counter the proposed present sewer location.

I am not totally against this project if a number of actions are taken however. The impact of the sewer be on their land and not effect my airspace or value of property. Secondly, that if development dramatically impact boat travel on Old River, the owners of property on or along the river be compensated for damage to dike and increased maintenance costs. Next, no overflow at any time be allowed to run off into Old River, that the sewer be large enough to handle the winter overflow. And lastly, that the impact on roads in and around this deveiopment be paid for by the developers.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Hiram A. Sibley', written over the printed name.

Hiram A. Sibley

August 31, 1990

RECEIVED

SEP 4 1990

SAN JOAQUIN COUNTY
PLANNING DIVISION

Kitty Walker, Senior Planner
San Joaquin County Department of
Planning and Building Inspection
1810 E. Hazelton Avenue
Stockton, Ca. 95205

Dear Mrs. Walker,

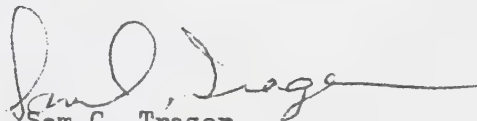
The Mountain House sewage plant which is now proposed to be placed between Henderson Road and Wickland Road, we would like to see placed further to the west. Possibly it could be placed more in the heart of the project?

Since they give such assurances that the plant willnot be a problem as to odor and such; they should have no objections.

If our choice was to be $\frac{1}{4}$ mile from Mountain House or $\frac{1}{4}$ mile from Tracy build-out, our choice would be Mountain House.

We do feel that being $\frac{1}{4}$ mile down wind of the sewage plant would make our property less valuable.

Respectfully,



Sam C. Trager
16333 W. Bethany Road
Tracy, Ca. 95376

cc: Tri-mark Communities

APPENDIX 10.4

PUBLIC MEETING NOTICES



SAN JOAQUIN COUNTY
DEPARTMENT OF PLANNING AND BUILDING INSPECTION

1810 E. HAZELTON AVE., STOCKTON, CA 95205
PLANNING PHONE: 209/468-3120
BUILDING PHONE: 209/468-3123
NEIGHBORHOOD PRESERVATION PHONE: 209/468-3021

CHET DAVISSON
Director

JERRY HERZICK
Deputy Director

RENÉ JACKSON
Deputy Director

TOM WALKER
Deputy Director

July 6, 1990

Richard King
Office of Planning and Research
Office of Permit Assistance
1400 Tenth Street, Room 121
Sacramento, CA 95814

Dear Mr. King:

RE: Scoping Meeting, for the Mountain House New Town EIR,
San Joaquin County

As we discussed on the telephone, this letter is written to you as a formal request to coordinate one or more scoping sessions for the Mountain House EIR. This initial letter will serve to advise you of the project and to let you begin reviewing the mailing list we've developed to date. Depending on interest in this project, two Scoping sessions may be warranted; one for State agencies and one for regional/local agencies.

Within the next few weeks you will also receive copies of the N.O.P. and Initial Study. Once the N.O.P. period begins running, you can schedule appropriate dates for Scoping sessions.

In the meantime, I've included some attachments that will give you a feel for the project. Thank you in advance for your assistance on this aspect of project coordination.

Sincerely,

Kitty Walker
Senior Planner

c: Trimark
SWA - Elizabeth Shreeve

Attachments - Mailing List
Project Description

APPENDIX 10.5

SUMMARY OF ISSUES DISCUSSED AT PUBLIC SCOPING MEETINGS



State of California

GOVERNOR'S OFFICE

OFFICE OF PLANNING AND RESEARCH

1400 TENTH STREET
SACRAMENTO 95814

RECEIVED
SEP 11 1990
RECEIVED

GEORGE DEUKMEJIAN
GOVERNOR

September 4, 1990

Ms. Amy Skewes-Cox
Baseline Environmental Consulting
5900 Hollis, Suite D
Emeryville, CA 94706

Re: Mountain House New Town, Agency Environmental Scoping Meeting

Dear Ms. Skewes-Cox:

The Office of Permit Assistance (OPA) appreciates your attendance and participation at the August 17, 1990 environmental scoping meeting held for the proposed Mountain House New Town Project within San Joaquin County.

Enclosed are the comments and questions as written at the meeting along with a copy of the sign-in sheet for your records.

If we can be of any further assistance, please contact Robert King at (916) 322-4245.

Sincerely,

Christine Kinn

for David C. Nunenkamp
Deputy Director, Permit Assistance

DCN:RK:ww

Attachments

MOUNTAIN HOUSE NEW TOWN
AGENCY ENVIRONMENTAL SCOPING MEETING

Friday August 17, 1990

The questions and comments listed below are taken from the notes of the August 17, 1990 meeting. These are meant to be indicative of the concerns expressed and issues which may need to be addressed. They are not meant to be verbatim notes, minutes, or testimony. They may cover a broad area that may exceed the usual focus of an environmental scoping session. An attempt has been made to organize the comments by group whether by speaker or subject. The applicants are encouraged to review the comments as to their project, agencies as to their review responsibilities, and the public as to their concerns.

ENVIRONMENTAL ISSUES

Existing Plans and Policies

Need for buffer zones. This and other projects poised for development. There is a need for open space. The project and environmental documents need to consider Alameda County's Open Space element of the general plan.

Contra Costa County's growth impacting area and vice versa.

- Consider job/housing phasing.
- Service thresholds need to be made clear.
- Duplication of services.
- Competition for development and funds.

Alternatives to proposed jurisdictional structure:

- Annexation of project to City of Tracy,
- Annexation and development of site near city.

Impacts on fish and game habitats are land use problems.

Growth Inducement and affects on flora and fauna.

Impacts on airport and land use plans.

Transportation and Circulation

Roads and improvements of existing system.

- interchanges
- gridlocks
- projected adt

Relationship of project to Bay area growth and development and impacts on Altamont pass etc.

Caltrans concerns global as to overall network.

- expansion
- trip distribution and assignment
- need for system solution now...not later
- truck/project interaction
- local traffic vs. highways
- Vasco Rd./Rt. 84 relocation.
- effect on access to I-5 and Livermore.
- impact on Rt. 4
- impact on proposed Rt. 239

Overflow to County Roads

Farm roads are old and built to minimum standards.

Commuter and transit

- Light Rail Corridor
 - option to consider
 - bus lanes
- Bike routes
 - contiguous
 - internal
- BART to Livermore...impacts
- Develop transit to existing systems.

Cumulative impact of all these projects within the I-5/205/580 corridors.

Altamont Pass bottleneck.

Job-housing balance between Bay Area and San Joaquin Valley.

Phase housing first? or phase industry first?

Railroad Impacts

- traffic rate
- noise
- separation of grade

OTHER circulation impacts

- 500 kilovolt line (Western Power Administration) traversing project site.
- gas pipelines, new, Unocal, PG&E.

Infrastructure

Sludge disposal

- impacts on water
- use as compost
- identify uses and disposal

Impacts on Bureau of Reclamation Projects

- water intakes downstream from proposed sewage disposal plant for Bureau, state and others.
- irrigation districts switching from agricultural uses to municipal and industrial.
- water from system delivered to San Luis reservoir, Westlands Water District, and eventually California Aqueduct.
- effect of effluents on intakes.
 - inorganics
 - storm drainage
- problem with pedestrian access to canal...dumping and safety.

Consider sanitary survey being conducted by DWR and Brown & Coldwell.

The Department of Water Resources in the South Delta Water Management Plan proposes a barrier near the marina.

Non-point discharges, impacts on water etc.

Need Water Quality Management Plan

Marina may be troubled with lack of water circulation, still water, lack of movement.

RWQCB needs flows of water.

- impact from algae growth resultant from nutrient rich run offs.
- reduction of flows, Old River, Mid-River.
- Other discharges in water.
- cumulative impacts.

Consider mitigation...e.g. discharge upstream.

Need to look at land disposal alternatives.

However problem with year round land disposal.

New EPA regulations may/will impact storm drainage.

Will proposed Community Service districts funding be adequate for existing and new regulatory programs.

Source of water for the Byron water from Italian Slough.

- district considering to distribute water to project as either non-treated wholesale or as treated M & I.
- Former option now preferred course.

The Built Environment

Utilities

- Development needs to phased in relation to existing utilities.
- Land needed for facilities
- Phones to be out of the Tracy exchange.

Sheriff

- Need to provide coverage
 - 1 patrol officer per 1000 residents for rural
 - 1½-2 patrol officers per 1000 for urban area.
- impacts also on
 - probation
 - health
 - animal control
 - Office of Emergency Services
 - emergency medical
- impacts of land uses and age cohorts
- lighting and visibility
- natural/open space areas present security problems.
- parking adequacy
- alleyways, especially near rental housing
- nuisance problems, i.e. noisy dog, if not taken care of by sheriff department...then who?

Schools

- possible new schools-late phase
-

Solid Waste

- new solid waste permit
- waste stream from construction to end delineate types
- Recycling, source reduction, other uses.
- identify destination landfill
- incorporate disposal of household hazardous wastes
- special wastes

Funding of services

- types
- mitigation

- regional cost/benefits
- schools
- fire regulations
- differentiate between soft and hard costs

The Natural Environment

Prime agricultural land conversion

Impact of construction

Discharge permits

The Marina within flood plain.

Dedication of land to collect water run-offs.

If commercial or industrial uses groundwater then what impacts on it.

Seismic Impacts

- Hayward Fault
- others

Status of farmland mapping in San Joaquin County.

- area may be prioritized to be mapped sooner for project.

Natural Habitat

- Natural habitat is where wildlife lives not just pristine habitat.
- Farmlands are habitats that need to be considered.^f
- existing forage

Marina Impact on riparian

- end trips
- offsite impacts
- loss of more lands
- project amenity that may degrade and threaten species

Mitigation for species.

- First of future projects that impact area
- Discuss in regional sense
- Habitats, conservations plans, etc.

Regional Water Quality Control Board (RWQCB) will work with Fish & Game and Department of Health Services in cooperative effort for waste discharge permits. Nexus for State permits.

Air Quality

- Transportation
- emissions to Bay Area.
- Cumulative Impacts
- Mitigation
 - trip reduction
 - BART
 - Ridemapping
 - Van Pools
- Land Use Conflicts
 - School site near sewer plant
 - Light manufacturing
 - solvent use
- Bay Area pollutants to San Joaquin Valley
- Odor management plan required by RWQCB for sewer plant.

The following agencies were not in attendance but it was noted that their comments would be of value:

U.S. Department of Fish and Wildlife
U.S. Army Corp of Engineers
Metropolitan Transportation Agency

Mr. Mike Essau
San Joaquin County Sheriff
222 East Weber Avenue, Basement
Stockton CA 95202

Mr. Stan Lawrence
Sheriff
San Joaquin County
222 E. Weber Avenue
Stockton CA 95206

Mr. Art Carrera
Alameda County Public Works
399 Elmhurst Street
Hayward CA 94544

Mr. Peter Williams
San Joaquin County
Council of Governments
1860 East Hazelton Avenue
Stockton CA 95202

Ms. Jeannie Blakeslee
California Integrated Waste Management
1020 9th Street, Room 300
Sacramento CA 95814

Mr. Barry Hand
Tracy Community Development Department
520 Tracy Blvd
Tracy CA 95376

Ms. Betty Croly
Alameda County Planning Department
399 Elmhurst Street
Hayward CA 94544

Mr. Buddy Smith
Bureau of Reclamation
Tracy Office
P.O. Box 35, Route 1
Byron CA 94514

Mr. George Palernos
PG&E
P.O. Box 930
Stockton CA 95201

Mr. Eric Partrey
San Joaquin County Planning
East Hazelton Avenue
Stockton CA 95205

Ms. Susan Prost
Livermore Planning Department
1052 S. Livermore Avenue
Livermore CA 94550

Ms. Lois Stornetta
Byron Bethany Irrigation District
P.O. Box 273
Byron CA 94514

Ms. Carolyn Cole
Wesco
384 Bel Marin Keys
Novato CA 94949

Mr. Robert Sutton
Tracy Rural Fire
835 Central Avenue
Tracy CA 95376

Mr. Chuck Seefloth
Pac-Bell
44 W. Yokuts
Stockton CA 95206

Ms. Lori Cheung
LSA Associates Inc.
157 Park Place
Pt. Richmond CA 94801

Mr. Gary Adams
Caltrans, District 4
P.O. Box 7310
San Francisco CA 94120

Mr. Pablo Galvez
Caltrans, District 4
P.O. Box 7310
San Francisco CA 94120

Ms. Eileen Rubio
PG&E
55 W. 10th Street
Tracy CA 95376

Mr. Calvin Morgan
PG&E
55 W. 10th Street
Tracy CA 95376

Mr. Gregory Gee
Alameda County Department of Agriculture
224 West Winton, Room 184
Hayward CA 94544

Mr. Waiman Yip
Department of Water Resources
1416 Ninth Street
Sacramento CA 95814

Mr. Robert Evans
3443 Routier Road
Sacramento CA 95827

Ms. Heidi McNally-Dial
Caltrans
1976 E. Charter Way
Stockton CA 95201

Mr. Michael Murphy
Bay Area Air Quality Management District
939 Ellis Street
San Francisco CA 94109

Mr. Dan Gifford
Department of Fish & Game
1701 Nimbus, Suite A
Rancho Cordova CA 95670

Ms. Francine Demos-Petropoulos
Jones & Stokes Association
2600 V Street
Sacramento CA 95818-1914

Ms. Amy Skewes-Cox
Baseline Environmental Consulting
5900 Hollis, Suite D
Emeryville CA 94706

Ms. Carolyn Mills
Mills Associates
1042 Country Club Drive
Morgan CA 94556

Mr. Mike Higgins
San Joaquin County Health
445 N. San Joaquin Street
San Joaquin CA 95205

Mr. Marty Abell
ESA
1301 Brannan Street
San Francisco CA 94107

Ms. Wylia Satterness
San Joaquin County Planning Department
1810 E. Hazelton Avenue
Stockton CA 95205

Ms. Kitty Walker
San Joaquin County Planning Department
1810 E. Hazelton Avenue
Stockton CA 95205

Ms. Elizabeth Shreeve
BWA Group
2200 Bridgeway Blvd
Sausalito CA 94965

Ms. Elaine Tope
299 Brookside Drive
San Anselmo CA 94960

Mr. Ron Gross
Tri-Mark Communities
3120 Tracy Blvd, Suite C
Tracy CA 95376

APPENDIX 10.6

**BYRON-BETHANY IRRIGATION DISTRICT (BBID) WATER RIGHTS
AND WATER DISTRICT ANNEXATION PROCEDURES**

AFFIDAVIT OF POSTING OF NOTICE OF APPROPRIATION
OF WATER.

STATE OF CALIFORNIA,)
) ss:
COUNTY OF CONTRA COSTA)

R. R. Houston

being duly sworn, deposes and says:

That on May 18th, 1914 he posted a full, true and correct copy of the attached "NOTICE OF APPROPRIATION OF WATER" at the point where the West bank of Old River intersects the South bank of the branch or channel making South from said Old River, and designated as "Italian Slough", and which said point where said notice was posted is near to the center of Section 7, Township One South, Range 4 East Mount Diablo Base and Meridian, in Contra Costa County, State of California, by then and there affixing and fastening such copy of said "Notice of Appropriation of Water" to and upon a board firmly fixed in the ground at said above designated point;

That on May 18th, 1914, he posted a full, true and correct copy of the attached "NOTICE OF APPROPRIATION OF WATER" at the point of intersection of the East bank of "Italian Slough" at its terminus with the Eastern extremity of the South embankment of an artificial canal or channel 200 feet wide extending Westerly on the Southerly section line of Section 13 in Township One South, Range 3 East Mount Diablo Base and Meridian, in Contra Costa County, State of California, and which point is distant on such section line 1450 feet Westerly thereon from the Southeast corner of said Section 13, by then and there affixing and fastening such copy of said "Notice of Appropriation of Water" to and upon a board firmly fixed in the ground at said last above designated point;

That on May 18th, 1914, he posted a full, true and correct copy of the attached "NOTICE OF APPROPRIATION OF WATER" at the point of intersection of the South bank of the canal or channel 200 feet wide running East and West on the Southerly section line of Section 13, Township One South, Range 3 East, Mount Diablo Base and Meridian, in Contra Costa County, State of California, with the East bank of the canal or channel 25 feet wide extending Southeasterly, the said point of intersection being 480 feet East of the Southwest corner of said Section 13, by then and there affixing and fastening such copy of said "Notice of Appropriation of Water" to and upon a board firmly fixed in the ground at said last above designated point.

R. R. Houston

Subscribed and sworn to before me,

23

day of May,

Notary Public in and for the County of
Contra Costa, State of California.

NOTICE IS HEREBY GIVEN, that BYRON-BETHANY IRRIGATION COMPANY, a corporation organized and existing under and by virtue of the laws of the State of California, and having its principal place of business in Contra Costa County, State aforesaid, does hereby claim the water flowing in Old River, at the point where the West bank of said Old River intersects the South bank of the branch or channel making South from said Old River and designated as "ITALIAN SLOUGH", and which said point is near to the center of Section Eleven (7), Township One (1) South, Range Four (4) East Mount Diablo Base and Meridian in said Contra Costa County.

That said corporation claims and intends to use the water there flowing to the extent of 40,000 inches measured under a four-inch pressure.

That the purpose for which said corporation claims said water is to furnish water to its shareholders for irrigation and domestic purposes, and the place where it is intended to use said water is upon the lands lying in the Easterly portions of Contra Costa and Alameda Counties and the Southwesterly portion of San Joaquin County.

That the means by which it is intended to divert said water and the size of the diverting agency is as follows:

FIRST, through and along Italian Slough Southerly for about two miles to a point on the Southerly Section line of Section 13, in Township One South, Range Three East Mount Diablo Base and Meridian, and distant thereon 1450 feet Westerly from the Southeast corner of said Section 13, and which said Italian Slough is about 200 feet wide and 8 feet deep at its confluence with said Old River.

Thence Westerly through and along an artificial channel 200 feet wide and 8 feet deep, now existing, 3350 feet to a point 480 feet East of the Southwest corner of said Section 13.

SECOND; thence Southeasterly 3600 feet through and along an artificial canal or channel now existing, to the point of intersection of said canal with a creek known as Bruns Creek and the Segregation line, and which said point is in the Southwest quarter of Section 24, Township One South, Range Three East Mount Diablo Base and Meridian, said artificial channel or canal which is about 25 feet wide and 6 feet deep to be enlarged to 46 feet wide at the top, 30 feet wide at the bottom and 8 feet deep.

THIRD; thence through and by a canal or channel 50 feet wide at the top, 30 feet wide at the bottom and about 10 feet deep to be cut, and following Southwesterly up and along said Bruns Creek 2600 feet to a point near the Southwest corner of the Southwest quarter of said Section 24, and at such last named point by pumps and other apparatus and appliance to lift the water into several ditches or flumes or other conveyors for distribution to the main and other laterals for use on adjacent lands.

IN WITNESS WHEREOF, said corporation has caused its corporate name to be hereunto subscribed by its President, and its corporate seal to be hereunto affixed by its Secretary, the 18th day of May, 1914.

BYRON-BETHANY IRRIGATION COMPANY

By Volney Taylor President

By R. R. Houston Secretary.

BYRON-BETHANY IRRIGATION DISTRICT

OFFICERS

JOHN J. CARVALHO - PRESIDENT
LOIS STORNETTA
SECRETARY/COLLECTOR/TREASURER
LORETTA BORGES - ASSESSOR
FRED K. SPECHT - MANAGER
MINASIAN, MINASIAN, MINASIAN
QUANCE, BABER, MEITH & SOARES
ATTORNEYS
CH₂M HILL - ENGINEERS

3944 MAIN STREET (415) 634-3534
P.O. BOX 273, BYRON, CALIFORNIA 94514



JOHN J. CARVALHO
DIRECTOR DIVISION NO. 1
GERALD E. TENNANT
DIRECTOR DIVISION NO. 2
RUTH SANTOS
DIRECTOR DIVISION NO. 3
CHARLES M. UZNAY
DIRECTOR DIVISION NO. 4
WILLIAM G. RAYHER
DIRECTOR DIVISION NO. 5

REGULAR MEETING HELD ON SECOND TUESDAY OF EACH MONTH

August 18, 1989

Mr. William W. Johnson
Managing Partner
TRIMARK COMMUNITIES
3120 Tracy Blvd., Suite C
Tracy, California 95376

Dear Mr. Johnson:

We are pleased that you have contacted our district regarding water service for your prospective planned community development consisting of approximately 6,240 acres, with approximately 5,000 acres now residing within District boundaries. Our irrigation district was formed in the early 1900's and is a non-profit governmental agency, operating under and by virtue of Division 11 of the California Water Code. It is operated for the full benefit of the lands and people within its boundaries. At present, we do not deliver water for domestic use, although we do have this power pursuant to Sections 22075 and 22076 of Division 11 of the California Water Code.

Our district contains approximately 12,000 to 15,000 irrigable acres, with approximately 17,500 total acres within its boundaries, including approximately 5,000 acres of the Mountain House Community Project, which we understand is proposed for development by Trimark Communities. We are willing to cooperate with you in the development of a water supply for your Mountain House Community Project, subject to the district's rules and regulations which are in effect and as may be amended by the board of directors from time to time. The rules and regulations are adopted pursuant to Water Code Section 22257 and currently govern the operation, maintenance, repair and replacement of our existing district distribution facilities.

To the extent land within the district boundaries is taken out of agricultural use due to this urban development plan by Trimark Communities, the district shall in accordance with California law, make every effort to put water previously designated for agricultural use to municipal, domestic, or industrial use in accordance with current district rules and regulations. To the extent that approximately 1,240 acres within Trimark lie outside of district boundaries, we would propose that at some future time consistent with Trimark's development and this district's water service to those portions of Trimark's project within our boundaries, that such acreage be considered for annexation to the district. We

August 18, 1989

also plan to continue fully developing the beneficial use of the district's source of supply and explore additional sources of water to the extent practical for Mountain House and all customers within the district, regardless of the nature of their water use, pursuant to Los Vaqueros project, or some other local storage project. It is our present belief that through these means, it will be possible to meet the needs of the Trimark/Mountain House Project for future water service as well as our remaining district water users.

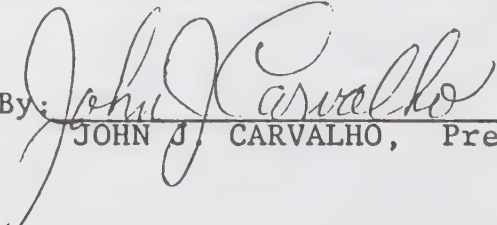
Our willingness to cooperate in providing water for domestic, municipal and/or industrial use would be subject to the following principles:

1. That sufficient water is available to the district to meet the need of the Mountain House Project without interfering in any way with a full supply of water for all remaining agricultural water uses within the district, including but not limited to, full compliance with the provisions of our enabling legislation contained within Division 11 of the California Water Code.
2. That all of the costs in providing water for Mountain House Project, including but not limited to, planning, obtaining approvals by other public entities, construction and delivery, be born by the Mountain House Project and not by the district or by remaining district taxpayers and water users.
3. That continued agricultural water service to portions of land within district boundaries which are not developed for urban, municipal or industrial use, will remain physically and economically viable.
4. That all necessary written contracts shall be prepared and entered into with Trimark Communities, Mountain House Development, or such other entity which is proper to provide the necessary services.

We look forward to working with you.

Very truly yours,

BYRON-BETHANY IRRIGATION DISTRICT

By: 
JOHN J. CARVALHO, President

cc: William H. Baber III
Jeanne M. Zolezzi
William Barden
Polly Boissevain
Neil Cline

Annexation Procedures

A summary of annexation procedures pursuant to the Cortese-Knox Local Government Reorganization Act required by State law, Government Code Section 5600, *et seq.*, the California Environmental Quality Act (CEQA), and the Revenue and Taxation Code (Section 99 and 99.1) is presented in this appendix.

PRIMARY LAFCO IDENTIFICATION

Pursuant to the Cortese-Knox Local Government Reorganization Act, California Government Code Section 56387, if any district is located in more than one county, the LAFCO of the principal county has exclusive jurisdiction over the authorization of any proposed organization change or reorganization of the district. In this case, the Contra Costa County LAFCO would have exclusive jurisdiction and authority to process the proposed BBID annexation.

Alternatively, pursuant to Section 56388 of this same legislation, the Contra Costa County LAFCO may vest and transfer jurisdiction of the BBID to the San Joaquin County LAFCO because the proposed annexation site is located in San Joaquin County. In order to transfer jurisdiction, the following must occur:

- The Contra Costa County LAFCO agrees to have the exclusive jurisdiction of the BBID vested in the San Joaquin County LAFCO.
- The Contra Costa County LAFCO designates the San Joaquin County LAFCO to assume exclusive jurisdiction.
- The San Joaquin County LAFCO agrees to assume exclusive jurisdiction.

APPLICATION PROCEDURES FOR INITIATION OF COMMISSION PROCEEDINGS

- Proponent reviews proposal with the LAFCO Executive Officer.¹
- Proponent prepares application material for proposal. For CEQA purposes, LAFCO would be the lead agency, and an environmental review would be conducted. However, since the proposed annexation is already being considered in this environmental document, this review may suffice as the environmental document required under CEQA.
- At least 20 days prior to adopting a resolution of application, proponent gives mailed notice of intention to each interested agency and subject agency, unless there is 100 percent consent on the proposal. The notice must generally describe the proposal and the affected territory.

¹The recommended procedure is not required by law. The proponent could be either BBID or the project applicant.

COMMISSION PROCEEDING FOR CHANGES OF ORGANIZATION OR REORGANIZATION

- The proposal application can take the form of a resolution or petition. The proponent can either prepare and adopt a resolution of application by the affected agency, or if by petition, can circulate the proper petition for the required signatures. The resolution of application must contain the same information as the petition, except for signatures.
- The proponent delivers a complete application to the Executive Officer, including the application questionnaire, resolution or petition, CEQA environmental document, map and description of affected area, applicable fees, agency service plan, or any other information required by the Commission.
- If the proposal is by petition, the Executive Officer issues a determination on its sufficiency within 10 days of petition submittal.
- The Executive Officer determines if master property tax agreements are applicable or if separate property tax exchange resolutions are needed.
- If a notice to interested and subject agencies has not been sent or 100 percent consent has not been given, the Executive Officer must give such notice at least 20 days before issuing a certificate of filing.
- The Executive Officer reviews the proposal within 30 days of receipt. If the Executive Officer determines that the application is complete, he/she issues a certificate of filing, setting the Commission's public hearing within 90 days. If the application is not complete, the Executive Officer notifies the proponent.
- The Executive Officer requests review of any information for the proposal from affected county departments, affected agencies, and other affected counties' LAFCOs.
- Proponent and/or LAFCO provide for a meeting with affected residents or landowners to give information and receive comments on the proposal.²
- The Executive Officer gives public notice at least 15 days prior to the date set for the public hearing. Notice and opportunity to request a public hearing must be given to agencies whose boundaries are affected by the proposal. Some Commission actions, including annexations with written consent of all landowners, do not require public notice and hearing.
- The Executive Officer reviews the application and any comments received and prepares the written report and recommendation.
- The Executive Officer mails the report at least five days prior to the hearing to each Commissioner, each person named in the application to receive a report, each affected local agency requesting a report, each agency whose boundaries or sphere of influence will be changed, and the Executive Officer of any other

²The recommended procedure is not required by law. The proponent could be either BBID or the project applicant.

affected County.

- The Commission hears the proposal on the noticed date and time and approves or denies the proposal with or without conditions or revisions. The Commission also determines if the territory is inhabited or uninhabited, designates the conducting authority, and assigns a short-term designation. BBID would probably be designated as the conducting authority if they apply for annexation (Perella, 1991). If there is 100 percent consent on the proposal, the Commission can authorize proceeding without public notice, hearing, or an election.
- The Executive Officer sends the Commission resolution by certified mail to the chief petitioners, each agency whose boundaries will be changed, and to the conducting authority.

CONDUCTING AUTHORITY PROCEEDING FOR CHANGES OF ORGANIZATION OR REORGANIZATION

- The Clerk of the conducting authority sets the proposal for hearing within 35 days of the Commission's resolution date and gives notice. If authorized by the Commission, the conducting authority may approve the proposal without notice and hearing.
- The conducting authority hears the proposal at the noticed date and time. Any written protests must be filed prior to the conclusion of the hearing with the Clerk.
- The conducting authority shall adopt a resolution that follows one of these three actions:
 - Ordering the change if the area is uninhabited and if no majority land value protest is received; or if it is inhabited and less than 25 percent voter or land owner protest is received. The project applicant owns or has an option to buy 9 of the 17 parcels, or about 84 percent of the land being considered for annexation (Trimark, 1990).
 - Ordering the change subject to an election if the land is inhabited and 25 to 50 percent of the registered voters or landowners protest. If the conducting authority has called for an election, the Executive Officer shall prepare an impartial analysis on the question for Commission approval. If it is approved by the voters, a resolution ordering the change is adopted; if it is denied, a resolution ordering the change to be terminated is adopted.
 - Terminating proceedings if a written protest is received from landowners have in a majority of the land value in uninhabited territory, or from registered voters in the inhabited territory.

A district annexation may be terminated by the conducting authority. If a proposal is terminated, a new proposal must wait one year.

**COMPLETION AND EFFECTIVE DATE OF
CHANGE OR ORGANIZATION OR REORGANIZATION**

- The Clerk of the conducting authority files a certified copy of the conducting authority resolution approving, denying, or calling for an election with the Executive Officer. If the proposal is approved, the Clerk must also submit fees for the State Board of Equalization with LAFCO, along with any evidence necessary for assuring compliance with the Commission resolution.
- The Executive Officer determines compliance of the conducting authority resolution with the Commission resolution. If it is in compliance, the Executive Officer issues a certificate of completion which completes the proceedings and the certificate is recorded with the County Recorder. A statement of boundary change or creation is issued by the Executive Officer and filed with the appropriate fees with the State Board of Equalization, County Auditor, and County Assessor.
- The Executive Officer gives the notice of completion and effective date to the conducting authority, agencies whose boundaries are affected, affected county departments, and the proponent.
- The affected agencies recognize completion of the jurisdictional change.

APPENDIX 10.7

WATER QUALITY BACKGROUND INFORMATION

APPENDIX 10.7

WATER QUALITY BACKGROUND INFORMATION

Potable water provided by a new public water system must meet drinking water standards referred to as Maximum Contaminant Levels (MCLs). MCLs have been assigned to one bacteriological indicator, seventeen inorganic chemicals and compounds, forty one organic compounds, six radioactivity parameters, and seven physical characteristics.

The water quality of BBID's source water appears suitable as a drinking water source but would require treatment to meet all MCLs. Of the parameters summarized in Table 10.7-1 which have corresponding drinking water standards, only color, turbidity, selenium,¹ and trihalomethanes (THMs) exceed their respective MCLs. With the exception of THMs, conventional water treatment should reduce the levels of these parameters below their respective MCLs.

The concentration of THMs in the source water would require special attention in the treatment plant in order for the treated water to meet the standard. Total THMs is defined as the summation of chloroform, bromodichloromethane, dibromochloromethane, and tribromomethane concentrations. The drinking water standard for total THMs is 0.1 mg/L. Conventional disinfection processes using chlorine cause the formation of THMs. Advanced treatment may be necessary to remove the THMs in the source water and a non-THM forming disinfection process may have to be used in order to meet the drinking water standard. This is particularly true in anticipation of a lower drinking water standard for total trihalomethanes in the future.

Public water systems are subject to the California Health and Safety Code's specific minimum standards for drinking water quality. Regulations for the implementation of the Health and Safety Code are specified in Title 26, Division 22, Sections 64401 through 64475 of the California Code of Regulations. These regulations incorporate federal primary and secondary drinking water standards. The drinking water regulations include minimum requirements for drinking water quality; water quality monitoring; treatment plant siting, design, and operation; record keeping; reporting; and public information. The regulations are administered by the Office of Drinking Water of the California Department of Toxic Substances Control (DTSC). The local DTSC office that would be responsible for permitting and surveillance of the project's water system is located in the City of Stockton.

The regulations require that new treatment plants must be located away from: 1) areas subject to pollution or contamination from any point or nonpoint sources; 2) areas subject to a significant risk from natural disasters; 3) areas which could cause a breakdown of the public water system; and, 4) areas within the

¹Only one sample analyzed for selenium out of 101 samples had a selenium concentration greater than the MCL. The large majority of the analytical results were below the detection limit of 0.001/milligram per liter.

floodplain of a 100-year flood. The public water system operator is required to consult with DHS prior to making any financial commitment to or beginning construction of a new plant.

HAZARDOUS MATERIALS ASSOCIATED WITH WATER TREATMENT

The hazardous materials associated with water treatment and the potential impacts resulting from an uncontrolled release of these materials are summarized below.

- **Airborne Releases.** Airborne releases could include the release of vapors or gases such as chlorine. Airborne releases move with the wind, potentially affecting both the immediate treatment plant vicinity and areas located downwind from the release.
- **Spills.** The accidental spill of liquids and solids could affect soil, surface water, and groundwater. Uncontrolled releases of hazardous materials could occur at the water treatment plant. The potential impacts associated with accidental releases of each of the five chemicals are described below.
- **Hypochlorite.** Hypochlorite is an aqueous solution of hypochlorous acid in a salt form. It is a strong oxidizer and acts as a disinfectant. Because hypochlorite is a liquid, an accidental release would initially be characterized as a spill. However, a release of hydrochloride could also become airborne as it degrades and produces oxygen and hydrogen chloride. Hydrogen chloride would irritate skin, eyes and mucous membrane tissues. The accidental spill of hypochlorite could have a potentially significant impact on people working near or in the vicinity of the spill.
- **Chlorine Gas.** Chlorine gas is commonly used for water purification. It reacts in water to produce a strong oxidizing solution and acts as a disinfectant. The respiratory tract is rapidly irritated by exposure to low concentrations of chlorine gas, which is classified as a military poison (potentially lethal). As a gas, an accidental airborne release could have a potentially significant impact on people at the site of the release and residents located downwind.
- **Soda Ash.** Soda ash is used in the softening of water; it is a grayish, white powder containing up to 98 percent sodium carbonate. An accidental sodium carbonate release could have an impact on people handling the spill. Contamination of soil or surface water could also occur.
- **Fluorspar.** Fluorspar is a powder used for the fluoridation of water. As a solid, an accidental release could have an impact on people handling the spill and could result in contamination of soil or surface water.
- **Alum.** Alum, also known as aluminum sulfate, is used as a coagulating agent. It can be used in lump or ground form and is a grayish, white crystalline solid soluble in water. As a solid, an accidental release of alum could affect those handling the spill and cause contamination of soil and surface water.

TABLE 10.7-1

WATER QUALITY AT BANKS PUMPING PLANT
March 1982 through September 1990
(mg/L, unless otherwise noted)

Chemical/ Characteristic	MCL ¹	Average	Minimum	Maximum	Number of Measurements
Sodium	--	55	10	116	154
Calcium	--	17	14	20	13
Magnesium	--	13	6	18	26
Manganese ²	0.05	*	<0.005	0.028	21
Potassium	--	3.4	2.3	4.5	12
Hardness (as CaCO ₃)	--	94	77	124	25
Arsenic ²	0.05	0.002	0.002	0.003	21
Copper ²	1.0	*	<0.005	0.016	21
Iron ²	0.3	0.041	0.006	0.28	21
Hexavalent chromium ²	0.05 ³	*	<0.005	<0.005	4
Lead ²	0.05	*	<0.005	0.005	21
Zinc ²	5.0	0.017	0.006	0.037	21
Chloride	250.0 ⁴	80	14	186	160
Bromide	--	0.3	0.2	0.5	23
Fluoride ²	0.7-1.25	*	<0.1	0.4	21
Sulfate	250.0 ⁴	31	18	40	13
Nitrate (as N)	10.2	3.0	1.4	5.1	12
Boron	--	*	<0.1	0.2	10
Selenium	0.010	*	<0.001	0.018	10
pH (standard units)	--	7.5	6.7	8.5	149
Alkalinity (as CaCO ₃)	--	66	59	75	13
Total dissolved solids	500.0 ⁴	301	19	395	13
Dissolved oxygen	--	9.1	6.4	12.6	146
Electrical conductivity (μmhos/cm)	900.0 ⁴	473	143	863	160
Turbidity (turbidity unit)	5	12.2	4	37	117
Color (color unit)	15	23	0	60	95
Total organic carbon	--	3.3	1.6	8.9	51
Phenol ²	--	*	<0.001	0.007	4
Chloroform	s	0.39 ⁶	0.13 ⁶	1.7 ⁶	105
Bromodichloromethane	s	0.1 ⁶	0.03 ⁶	0.2 ⁶	105
Dibromochloromethane	s	0.045 ⁶	0.004 ⁶	0.160 ⁶	105
Tribromomethane	s	*	<0.001	0.032	105
TTHMFP ⁷	--	0.54	0.22	1.9	105
Diuron ⁸	--	*	--	0.00011	4
2,4-D ⁸	0.1	*	--	0.0001	4
Trichloroethylene ⁸	0.005	*	--	0.0005	4

¹ MCL = Maximum Contaminant Level (Drinking Water Standard). Drinking water standards have not been established for all compounds.

² Data were obtained between January 1988 and September 1989 from monthly water samples collected by DWR.

³ Total chromium.

⁴ Recommended concentration.

(continued)

Appendix 10.7-1 - *continued*

- ⁵ MCL for total trihalomethanes is 0.1 mg/L.
- ⁶ This concentration is measured following the trihalomethane forming potential procedure has been performed on the water sample and is not representative of the actual concentration in the water. Trihalomethanes are highly volatile and are not expected to persist in an open body of water.
- ⁷ TTHMFP = total trihalomethane formation potential.
- ⁸ Data were obtained between January 1990 and December 1990 from quarterly water samples collected by DWR (Diamond, 1991a).

Notes: * = This compound was measured to be below the detection limit on one or more occasions and, therefore, an average could not be calculated. The detection limit is shown under the Minimum column. The number under the Number of Measurements column is the number of times the compound was found above the detection limit.
-- = Not available.
See Figure 4.4-2 for sampling locations.

Source: DWR Water Quality Database (Diamond, 1991b) unless otherwise specified.

APPENDIX 10.8

WASTEWATER RECLAMATION AND WATER CONSERVATION OPPORTUNITIES

RECLAMATION AND CONSERVATION TECHNIQUES

Supplementary information on wastewater reclamation and water conservation techniques that could be employed at the Mountain House development is provided in this appendix. Goals and implementing strategies for reuse of reclaimed wastewater are described. A conceptual reclamation implementation plan is provided. Three water conservation techniques (low-flow plumbing fixtures, xeriscape gardening, and leak detection/control) are described. Lastly, a possible institutional framework for implementing these techniques is provided.

WASTEWATER RECLAMATION

Reclamation and reuse of wastewater from the Mountain House development would help mitigate the potential impacts of an insufficient water supply and adverse water quality effects of discharge into Old River.

Goals and strategies for implementing reclamation are described in Table 10.8-1. These reclamation techniques could become part of the Mountain House Specific Plan. In addition, a generic implementation plan is provided in Table 10.8-2 to outline the necessary steps.

WATER CONSERVATION

Low-Flow Fixtures

The Specific Plan for the Mountain House development could include requirements to install low-flow fixtures in residential and commercial/industrial buildings. Residential fixtures can include low-flow toilets, shower heads, and kitchen/bathroom faucets. Water-efficient washing machines and dishwashers could also be provided as built-ins in the new structures. These fixtures can reduce indoor water use in new homes by about 25 percent. Low-flow fixtures would also decrease the wastewater flows requiring treatment at the proposed wastewater treatment plant. Commercial/industrial buildings and local government-owned buildings (parks, schools, etc.) can also install low-flow fixtures and automatic shut-off faucets.

Xeriscape Gardening/Landscaping

Outdoor landscape irrigation is likely to represent a large portion of the water used at Mountain House. This amount can be controlled by regulating the types of irrigation systems installed, the amount of turf area allowed, and/or the types of plants used for landscaping. These requirements can be built into the building permit approval process and applied to single-family residential units, multi-family units, commercial facilities, and industrial facilities. Specific provisions could include:

- Landscape design guidelines for single-family units (low-water use plants and turf, recommended types of irrigation control systems, recommended methods of soil preparation and irrigation, recommended schedules for planting, maintenance, irrigation)
- Landscape Design Review Board (designated group to evaluate and approve landscape designs for commercial, multi-family and government facilities)
- Turf limitations (limit on turf area size or prohibition on turf in some locations, e.g., median strips)

TABLE 10.8-1

GOALS AND STRATEGIES FOR REUSE OF RECLAIMED WASTEWATER

Goals	Implementing Strategies
Reduce Demand on Potable Supplies	<ul style="list-style-type: none"> • Provided reclaimed water for mobile distribution: dust control, median strip irrigation, ornamental uses • Construct multiple user distribution pipelines to large water users: golf courses, park, industrial cooling/washing, commercial landscaping • Construct comprehensive dual piping system to provide reclaimed water throughout the development • Change plumbing codes to allow dual plumbing for toilet flushing in office/commercial buildings
Maximize Reuse of Reclaimed Wastewater	<ul style="list-style-type: none"> • Prohibit potable water use for some uses (median strip irrigation, construction dust control) when reclaimed water is available • Develop water pricing structure that encourages reclaimed water use
Protect Surface and Groundwater Supplies	<ul style="list-style-type: none"> • Treat water sufficiently to prevent/minimize pollutant loads to Old River/local groundwater basins • Use constructed wetlands to increase nutrient and heavy metal uptake from the wastewater
Enhance Wetland/Aquatic Habitat	<ul style="list-style-type: none"> • Provide a reliable water supply to maintain year-round stream flows and enhance riparian vegetation growth.

TABLE 10.8-2

**GENERIC IMPLEMENTATION PLAN FOR
WASTEWATER RECLAMATION¹**

Step	Implementation Task
1	Identify Potential Users of the Reclaimed Wastewater
2A	Evaluate Potential Water Quality Requirements, Treatment Alternatives, and Estimated Costs
2B	Evaluate Distribution System Alternatives (Mobile, Multi-user Pipeline, Comprehensive Dual Piping) and Estimated Costs
3A	Assemble Program Alternatives
3B	Evaluate Funding Mechanisms
3D	Evaluate Regulatory Requirements
4	Choose Most Appropriate Alternative(s)
5A	Obtain Necessary Permits
5B	Negotiate and Execute User Agreements
5C	Obtain Financing for Construction
6	Construct and Operate the Wastewater Reuse Facilities
7	Evaluate Program Success and Consider System Enhancements, as Necessary

¹ The applicability of this generic implementation plan depends on when, during project phasing, the implementation might be developed. If potential users exist at the time the Specific Plan is developed, their specific needs and concerns should be solicited and addressed.

Leak Prevention, Monitoring, and Control

Because the water distribution system for Mountain House would be new, leaks should not represent a significant water loss early on. Proper design and installation and routine maintenance should prevent most leaks. Corrosion control (e.g., cathodic protection) can be used to protect metal pipes. Meter maintenance and valve exercising can help reduce unaccounted-for water. Sophisticated leak detection systems can be used to systematically monitor the distribution system (using sonic equipment) to identify leaks. These systems can, however, be expensive and require trained personnel. Other leak control activities include identifying unauthorized connections, preventing tampering with fire hydrants, and considering a lower system pressure (e.g., 50 psi rather than 80 psi) to reduce water use.

Conservation Education and Incentives

Other water conservation measures typically involve educational activities (workshops, technical assistance/audits, consumer's guides, training programs for landscapers and irrigation personnel), rebates for purchasing water-saving fixtures, and distribution of free water conservation devices (toilet dams, low-flow shower heads).

INSTITUTIONAL FRAMEWORK

An institutional framework for implementing some of the conservation and reclamation measures is described in Table 10.8-3. It is also important to note that if these measures are implemented, the specific projects would be subject to state and local regulations, e.g., County building/plumbing codes and State water quality requirements. Many of the measures described in the table can be mandated in the Specific Plan for Mountain House and implemented using Conditions, Covenants, and Restrictions (CC&R).

TABLE 10.8-3

**INSTITUTIONAL FRAMEWORK FOR FACILITATING
CONSERVATION AND WASTEWATER RECLAMATION**

Potential Mitigation Measure	Discretionary Action When Measure Can be Required	Implementing Agency/Party
Water Efficient Plumbing	Specific Plan	Homeowners/Property Owners Association (CC&R)
Control Type of Landscaping	Building Permit	Design Review Board Appointed by new Community Services District
Landscape Irrigation with Reclaimed Water	Specific Plan	Homeowners/Property Owners Association (CC&R)
Mandatory Use of Reclaimed Water for Some Uses	Specific Plan	Property Owners Association (CC&R)
Prohibit Self-Regenerating Water Softeners	Building Permit	Homeowners Association (CC&R)
Industrial Pretreatment	Service Agreement with Industrial Dischargers	Wastewater Depart. of new Community Services District
Regional Coordination of Reclamation Activities/Develop Reclamation Master Plan	Specific Plan	New Community Services District in cooperation with San Joaquin County Environmental Health Department

APPENDIX 10.9

TREATMENT SLUDGE AND WASTEWATER BACKGROUND INFORMATION

APPENDIX 10.9

DISPOSAL OPTIONS AND REGULATORY REQUIREMENTS

SLUDGE DISPOSAL OPTIONS

The following options are available for water treatment and wastewater treatment sludge disposal: landfilling in a Class II or Class III landfill, landspreading (soil amendment), dedicated land disposal, composting, incineration, and industrial reuse. These sludge disposal options are described briefly below.

Landfilling

The applicant proposes to haul and discard wastewater sludge at the Vasco Road Landfill, a Class III landfill, located in Alameda County approximately 15 miles from the project site. Once at the landfill, the dewatered sludge would be either buried in trenches or mixed with soil.

The Vasco Road Landfill would accept wastewater sludge that is a non-hazardous, non-designated waste, and has a minimum solids content of 50 percent. The landfill has a remaining life of 20 years and a planned expansion of the landfill would increase the landfill life by another 20 years. The expanded portion of the landfill would be constructed to meet Class II requirements and would be equipped with a liner and a leachate collection and monitoring system (Century West Engineering, *et al.*, 1991).

Landspreading (Soil Amendment)

Digested and dried sludge is used as a fertilizer to be spread on forested land, reclaimed land, parks, recreation areas, and highway, airport, or agricultural lands. On agricultural lands, application rates of the sludge would depend on the assimilative capacity of the crops grown, (i.e., the amount of nitrogen in the sludge that can be absorbed by the crops to prevent nitrate from entering the groundwater). The use of sludge for fertilizing food crops involves a potentially greater risk to public health than growing non-food crops.

Landspreading has just recently been implemented within the jurisdiction of the Central Valley RWQCB on a 12-month trial basis by the City of Tracy. This pilot project is intended to help determine the viability of sludge spreading. If it is determined that landspreading of sludge is an acceptable disposal method, the RWQCB may approve and grant a Waste Discharge Permit to the City of Tracy (Century West Engineering, *et al.*, 1991).

Dedicated Land Disposal

This type of sludge disposal is similar to agricultural landspreading, but differs in terms of the application rate of the sewage sludge. High application rates of sewage sludge are matched to the capacity of the soil and plants to assimilate various nutrients. Since the purpose of this sludge disposal method is land disposal rather than agricultural fertilizing, crops are not grown for consumption (Century West Engineering, *et al.*, 1991).

Composting

Sludge composting consists of using high temperatures to breakdown the sludge to a relatively dry and stable humus-like material. The sludge is typically composted for 21 to 30 days, allowed to cure for at least an additional 30 days, and often stored for 60 to 90 days following curing to ensure that the final product has no residual odors. The compost products are sold or distributed free to commercial growers, landscaping firms, parks, highway departments, cemeteries, and the public (CH2M HILL, 1987).

Incineration

Sludge can also be incinerated (burned) and energy in the form of fuel gases, steam, and electricity recovered. Sludge incineration consists of a two-step process involving drying and combustion (after preliminary dewatering, typically to at least 20 percent solids). Incineration is generally most competitive in large metropolitan areas with restricted land availability. It often is not cost effective if suitable sites are available for other land-based sludge reuse/disposal alternatives (CH2M HILL, 1987).

As a result of the combustion process, heavy metals become more concentrated. Thus, heavy metal concentrations are higher in the ash than in sludge concentrations. Sludge should be test-burned and the ash analyzed to determine its hazardous/non-hazardous rating prior to disposal at a landfill.

Industrial Reuse

The content of water treatment sludge, primarily aluminum oxide from the alum coagulation, may make it appropriate for some industrial reuses. For example, the Santa Clara Valley Water District has experimented with reuse by the clay tile and brick industries. This reuse would decrease costs by avoiding landfill disposal, though the water treatment agency would probably pay for dewatering and perhaps some of the transportation costs.

FEDERAL REGULATIONS

Federal regulations on sludge are currently being revised and finalized by the U.S. Environmental Protection Agency (EPA). The EPA is considering revising certain aspects of the approach to regulating sewage sludge use and disposal practices. The changes being considered by EPA will encourage practices that reuse sewage sludge for its beneficial qualities while protecting public health and the environment from risks related to contaminated sludges. It is anticipated that the final sludge regulations will be issued between January and May 1992.

CALIFORNIA STATE AND LOCAL REGULATIONS

In California, municipal sewage sludge disposal/use is regulated by the State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCB), California Department of Health Services (DHS), the Integrated Waste Management Board, and local county health, planning, and public works departments.

The primary State and local regulations that apply to each of these sludge disposal options include:

- DHS regulations requiring the treatment plant operator to test the sludge to confirm that it is non-hazardous and not designated as a hazardous waste according to State and Federal waste disposal regulations.
- RWQCB regulations on land disposal of sludge to prevent adverse impacts on surface water and groundwater.

In addition to these regulations, the environmental effects of the selected sludge disposal method must be assessed pursuant to the California Environmental Quality Act (CEQA).

San Joaquin County is currently developing an Integrated Waste Management Plan (AB 939) that addresses solid waste management, source reduction, recycling, composting, and market development. At this time, it is uncertain whether or not treated sludge that is not landfilled but is reused would be accepted as a recycled product in the County's goal to reduce solid waste by 25 percent by 1995 and by 50 percent by 2000.

The applicable regulations are described briefly in Table 10.9-1.

TABLE 10.9-1

REGULATIONS APPLICABLE TO SLUDGE DISPOSAL

Sludge Disposal Options	Applicable Regulations
LANDFILLING	<p>California State Regulations: [Subchapter 15 (Discharges of Waste to Land) of Title 23 (Waters) of the California Code of Regulations]</p> <ul style="list-style-type: none"> • RWQCB regulations that may permit the disposal of sludge to Class II and Class III landfills if the sludge is dewatered and is non-hazardous. If disposed of at a Class III landfill, the landfill must be equipped with a leachate collection and removal system. • Sewage sludge must have a solids content of at least 50 percent. (The number of Class II and Class III landfills in California that will accept sewage sludge with a solids content of less than 50 percent is declining). <p>The California Department of Health Services and the Vasco Road Landfill requirements.</p> <ul style="list-style-type: none"> • Treatment processes to be included in the water reclamation plant are: dissolved air flotation thickening, anaerobic digestion, and sludge drying. • The dried sludge must have a minimum dry solids content of 50 percent. • The sewage sludge would need to be tested to confirm that it is non-hazardous and not a designated waste. <p><u>Local Regulations</u></p> <ul style="list-style-type: none"> • The Environmental Health Division of the San Joaquin County Health District issues facility permits and exemptions. It monitors, inspects, and enforces state minimum standards for solid waste handling and disposal in all physical activities and operations. The District also issues permits for disposal sites and is authorized to adopt regulations relating to disposal (Hekimian Van Dorpe Associates, 1986).
LANDSPREADING	<p>(Federal Criteria for the Classification of Solid Waste Disposal Facilities and Practices, 40 CFR, Part 257, September 1979)</p> <ul style="list-style-type: none"> • Land application sites for sludge disposal may be located in a flood plain; however, they must not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the flood plain, or result in washout of solid waste so as to pose a hazard to human life, wildlife, or land or water resources.
Landspreading - continued	<ul style="list-style-type: none"> • Land application of sludge must not violate Sections 208 (areawide waste treatment management), 402 (National Pollutant Discharge Elimination System (NPDES)), 404 (permits for dredge and fill material), and 405 (disposal of sewage sludge) of the Clean Water Act. • Land application of sludge must not contaminate an underground drinking water source beyond the land application site boundary.

Table 10.9-1 - *continued*

Sludge Disposal Options	Applicable Regulations
	<ul style="list-style-type: none"> • The sludge must not cause a risk of infection from the enteric organisms that are concentrated in the sludge. Indicator bacteria (fecal coliform bacteria) must be reduced by 90 percent prior to application and incorporation into the soil by the "Processes to Significantly Reduce Pathogens" (PSRPs). Acceptable PSRPs for sludge include aerobic digestion, air drying, anaerobic digestion, low-temperature composting, and lime stabilization. • Public access to the facility must be controlled for at least 12 months after sludge application. The grazing of animals whose products are consumed by humans must be restricted at the site for at least one month after sludge is applied or incorporated into the soil. Public access to the site does not need to be controlled if additional treatment processes called "Processes to Further Reduce Pathogens" are applied to the sludge. <p>RWQCB Regulations (Categorically exempt from Subchapter 15 if the sludge is determined to be non-hazardous)</p> <ul style="list-style-type: none"> • Obtain a Waste Discharge Permit for the sludge from the RWQCB (may be included as part of the wastewater reclamation plant's NPDES permit if indicated by the RWQCB). Minimum requirements to obtain a Waste Discharge Permit are as follows: <ol style="list-style-type: none"> 1. There is no surface runoff of toxics or metals. 2. The application rate of sludge is at the agronomic rate required for the crop, i.e., at a rate that meets the nitrogen requirements of the crop to prevent nitrate from entering the groundwater. 3. Leachate from the sludge-soil mixture does not degrade groundwater quality. 4. The application rate of sludge does not cause salts and metals to adversely affect the food chain.

Table 10.9-1 - *continued*

Sludge Disposal Options	Applicable Regulations
Landspreading - continued	<p>California Department of Health Services (DHS) guidelines for landspreading of sewage sludge.</p> <ol style="list-style-type: none"> 1. For restricted landscaping, the minimum treatment is PSRP with no public contact for 12 months. 2. For non-food chain crops, the minimum treatment is PSRP with no subsequent planting of food chain crops. 3. For animal feed (non-dairy pasture, hay, and silage grain), the minimum treatment is PSRP. 4. For non-produce food chain crops (orchards, vineyards, tobacco, and processed food crops) and semi-restricted landscaping (cemeteries and freeways), the minimum treatment is PSRP plus air drying or mesophilic composting. 5. For produce crops, dairy pasture, home gardens, and the distribution and marketing of sludge, the minimum treatment is heat drying, heat treatment, irradiation, or digestion plus pasteurization. <p>California State Regulations [Subchapter 15 (Discharges of Waste to Land) of Title 23 (Waters) of the California Code of Regulations]</p> <ul style="list-style-type: none"> • The discharger must demonstrate, prior to application of the sludge to the soil, that the sludge can be completely degraded, transformed, or immobilized in the discharge site. • The discharger must operate a test plot for a sufficient period of time to provide an indication to RWQCB that degradation, transformation, or immobilization will take place. • The discharger must take soil and soil-pore samples during the test demonstration to verify complete degradation, transformation, or immobilization. <p><u>Local Regulations</u></p> <ul style="list-style-type: none"> • The Environmental Health Division of the San Joaquin County Health Departments issues facility permits and exemptions. It monitors, inspects, and enforces state minimum standards for solid waste handling and disposal in all physical activities and operations. The District also issues permits for disposal sites and is authorized to adopt regulations relating to disposal (Hekimian Van Dorpe Associates, 1986).

Table 10.9-1 - *continued*

Sludge Disposal Options	Applicable Regulations
DEDICATED LAND DISPOSAL	<p>Federal Criteria for the Classification of Solid Waste Disposal Facilities and Practices, 40 CFR, Part 257, September 1979</p> <ul style="list-style-type: none"> • Land application sites for sludge disposal may be located in a flood plain; however, they must not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the flood plain, or result in washout of solid waste so as to pose a hazard to human life, wildlife, or land or water resources. • Land application of sludge must not violate Sections 402, 404, and 208 of the Clean Water Act. • Land application of sludge must not contaminate an underground drinking water source beyond the land application site boundary. • The sludge must not cause a risk of infection from the enteric organisms that are concentrated in the sludge. Indicator bacteria (fecal coliform bacteria) must be reduced by 90 percent prior to application and incorporation into the soil by the "Processes to Significantly Reduce Pathogens" (PSRPs). Acceptable PSRPs for sludge include aerobic digestion, air drying, anaerobic digestion, low-temperature composting, and lime stabilization. • Public access to the facility must be controlled for at least 12 months after sludge application. The grazing of animals whose products are consumed by humans must be restricted at the site for at least one month after sludge is applied or incorporated into the soil. <p>Public access to the site does not need to be controlled if additional treatment processes called "Processes to Further Reduce Pathogens" are applied to the sludge.</p>
COMPOSTING	<p><u>Federal Regulations</u></p> <p>As of 1987, no specific federal regulations govern this type of activity, however, recommendations and guidance have been developed by the U.S. Department of Agriculture, the Maryland Environmental Service, and the DHS regarding heavy metal content levels. In addition, the DHS recommends that sludge be treated by a PSRP similar to federal guidelines and that proper labeling be provided. In general, the landspreading criteria are applied to composting practices. Because of the high potential for public contact with the sludge, only sludges that meet PFRP criteria are recommended for use in compost marketing.</p>

Table 10.9-1 - *continued*

Sludge Disposal Options	Applicable Regulations
INCINERATION	<p><u>Federal Regulations</u></p> <ul style="list-style-type: none"> • Sludge combustion facilities are subject to New Source Review and Prevention of Significant Deterioration requirements, Particulate Matter and Visible Emissions, Odorous Substances, Inorganic Gaseous Pollutants, and New Plant Performance and Emission Requirements. Federal air emissions standards applicable to new or modified designs for sludge incinerators must be met for opacity, odors, particulates, beryllium, mercury, hydrocarbons, carbonyls, aldehydes, carbon monoxide, sulfur oxides, nitrogen oxides, PCBs, and pesticides. Permits to be obtained include the Authority to Construct and the Permit to Operate. <p>California State Regulations: [Subchapter 15 (Discharges of Waste to Land) of Title 23 (Waters) of the California Code of Regulations]</p> <ul style="list-style-type: none"> • Incinerator ash may be disposed of at a Class III landfill unless the DHS determines that the ash must be managed as a hazardous waste. • Sludge combustion air emissions are regulated by the California Air Resources Board and the regional air quality management districts. The regional air quality management district regulate nuisance odors. <p><u>Local Regulations</u></p> <ul style="list-style-type: none"> • The Environmental Health Division of the San Joaquin County Health District issues facility permits and exemptions. It monitors, inspects, and enforces state minimum standards for solid waste handling and disposal in all physical activities and operations. The District also issues permits for disposal sites and is authorized to adopt regulations relating to disposal (Hekimian Van Dorpe Associates, 1986).

TABLE 10.9-2

WATER QUALITY OF AGRICULTURAL DRAINAGE FROM PROJECT SITE
April 1986 to August 1987
(mg/L, unless otherwise specified)

Chemical/ Characteristic	MCL ¹	Average Concentrations							
		SJC005 Patterson Pass Road Tile Drain ²		SJC036 Kelso @ Byron Road Tile Drain Sump ²		SJC032 Kelso Road Surface Drain ²		SJC033 Mountain House Creek ²	
Sodium	--	350	(1)	351	(1)	209	(1)	89	(1)
Calcium	--	81	(1)	76	(1)	41	(1)	28	(1)
Magnesium	--	44	(1)	43	(1)	24	(1)	16	(1)
Potassium	--	1.4	(1)	1.3	(1)	4.7	(1)	9.3	(1)
Hardness	--	355	(1)	230	(1)	190	(1)	120	(1)
Copper, µg/L ³	1,000	<1-7 ⁴	(3)	<1-7.4 ⁴	(4)	<1- 8.4 ⁴	(4)	<1-17 ⁴	(4)
Chromium, µg/L ³	50	<1-3 ⁴	(3)	<1-8 ⁴	(4)	<1-8 ⁴	(4)	<1-5.5 ⁴	(4)
Nickel, µg/L ³	--	<5-20 ⁴	(3)	<5-10 ⁴	(4)	<5- 7.5 ⁴	(4)	<5-32 ⁴	(4)
Lead, µg/L ³	50	<5	(3)	<5-5 ⁴	(4)	<5	(4)	<5	(4)
Zinc, µg/L ³	5,000	<1-31 ⁴	(3)	<1-26 ⁴	(4)	<1-13 ⁴	(4)	<1-28 ⁴	(2)
Mercury, µg/L ³	2	<0.5	(4)	<0.5	(1)	<0.5	(4)	<0.5	(4)
Molybdenum, µg/L ³	--	<5	(3)	<5	(4)	<5	(4)	<5	(4)
Selenium, µg/L ³	10	3.9	(3)	2.0	(3)	2.4	(3)	2.2	(3)
Boron	--	3.8	(7)	4.0	(7)	7.6	(7)	4.1	(7)
Chloride	250 ⁵	314	(7)	278	(7)	617	(7)	311	(7)
Sulfate	250 ⁵	208	(6)	179	(6)	438	(6)	178	(6)
Total alkalinity (as CaCO ₃) ⁶	--	340	(5)	350	(5)	326	(5)	211	(5)
TDS ⁷	500 ⁵	1,350	(1)	1,200	(1)	790	(1)	440	(1)
Electrical conductivity, µmhos/cm ⁸	900 ⁵	2,167	(6)	1,651	(6)	2,960	(6)	1,882	(6)
pH	--	7.6	(4)	7.4	(4)	8.2	(4)	8.1	(4)
Temperature, ° F	--	64.6	(7)	64.4	(7)	68.4	(7)	68.6	(7)

¹ MCL: Maximum contaminant level (drinking water standard).

² Locations of water quality sampling points are shown in Figure 4.4-1.

³ µg/L: micrograms per liter.

⁴ Range of concentrations measured. Numbers preceded by "<" is the detection limit and indicate that the chemical was not identified above the detection limit.

⁵ Recommended concentration.

⁶ CaCO₃: calcium carbonate.

⁷ TDS: Total Dissolved Solids

⁸ µmhos/cm: micromhos per centimeter.

Notes: -- = Not available.

Numbers shown in parentheses represent the number of water samples collected.

Source: California Regional Water Quality Control Board, Central Valley Region (Belden, 1989).

TABLE 10.9-3

WATER QUALITY DATA FROM DELTA-MENDOTA CANAL HEAD
February 1976 through February 1990
(mg/L, unless otherwise noted)

Chemical/ Characteristic	MCL ¹	Average	Minimum	Maximum	Number of Measurements
Sodium	--	71	15	156	44
Calcium	--	23.3	10	52	19
Magnesium	--	14.4	5	287	19
Potassium	--	3.4	2	7	19
Chloride	250 ²	82.7	16	300	75
Sulfate	250 ²	49	10	130	20
Boron	--	442	110	1,870	25
pH (standard units)	--	7.5	7.3	7.7	8
Total dissolved solids	500 ²	318	86	780	83
Electrical conductivity (μmhos/cm)	900 ²	391	170	1,150	44
Turbidity (turbidity unit)	5	26.5	26.5	26.5	1

¹ MCL: Maximum contaminant level (drinking water standard).

² Recommended concentration.

³ μmhos/cm: micromhos per centimeter.

Note: -- = Not available.

Source: Bureau of Reclamation Water Quality Database (Ferris, 1991).

TABLE 10.9-4
WASTEWATER FLOWRATE CALCULATIONS
(MGD)

	Average Dry Weather Flowrate Without Water Conservation	Peak Flowrate
Phase I	1.19	2.74
Phase II	1.95	4.51
Phase III	1.89	4.35
Phase IV	1.52	3.50
TOTAL	6.55	15.1

	Average Flowrate with Water Conservation	Peak Flowrate
Phase I	0.91	2.09
Phase II	1.52	3.50
Phase III	1.53	3.52
Phase IV	1.16	2.62
TOTAL	5.12	11.73

Source: Trimark Communities, 1991c.

TABLE 10.9-5

PROPOSED REVISED IRRIGATION REUSE CATEGORIES BY DTSC¹

	Class A	Class B	Class C	Class D
Treatment Process				
Oxidized ²	Yes	Yes	Yes	Yes
Coagulated	Yes	Yes	--	--
Clarified	Yes	Yes	--	--
Filtered	Yes	Yes	--	--
Disinfected	Yes	Yes	Yes	Yes
Water Quality Standard				
7-day Median Coliform ³	2.2	2.2	2.2	23
Maximum Coliform	23 ⁴	23 ⁴	23 ⁴	240 ⁵
Maximum Virus ⁶	<1 per 40 L	<1 per 40 L	--	--
Maximum Enteric Cyst Count ⁷	<1 per 40 L	--	--	--

¹ Source: Section 1.0 of Initial Statement of Reasons for Proposed Changes in the Regulations of the Department of Toxic Substances Control (DTSC) Pertaining to Use of Reclaimed Water other than for Groundwater Recharge. California Department of Health Services, Environmental Management Branch, May 1990.

² Wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen.

³ MPN (most probable number) as determined by multiple tube fermentation. Average over seven most recent days of testing.

⁴ Maximum for single sample in any 30-day period.

⁵ Maximum for any two consecutive samples.

⁶ Treated under process conditions determined by the DTSC to reduce the detectable number of enteric viruses to less than 1 per 40 liters.

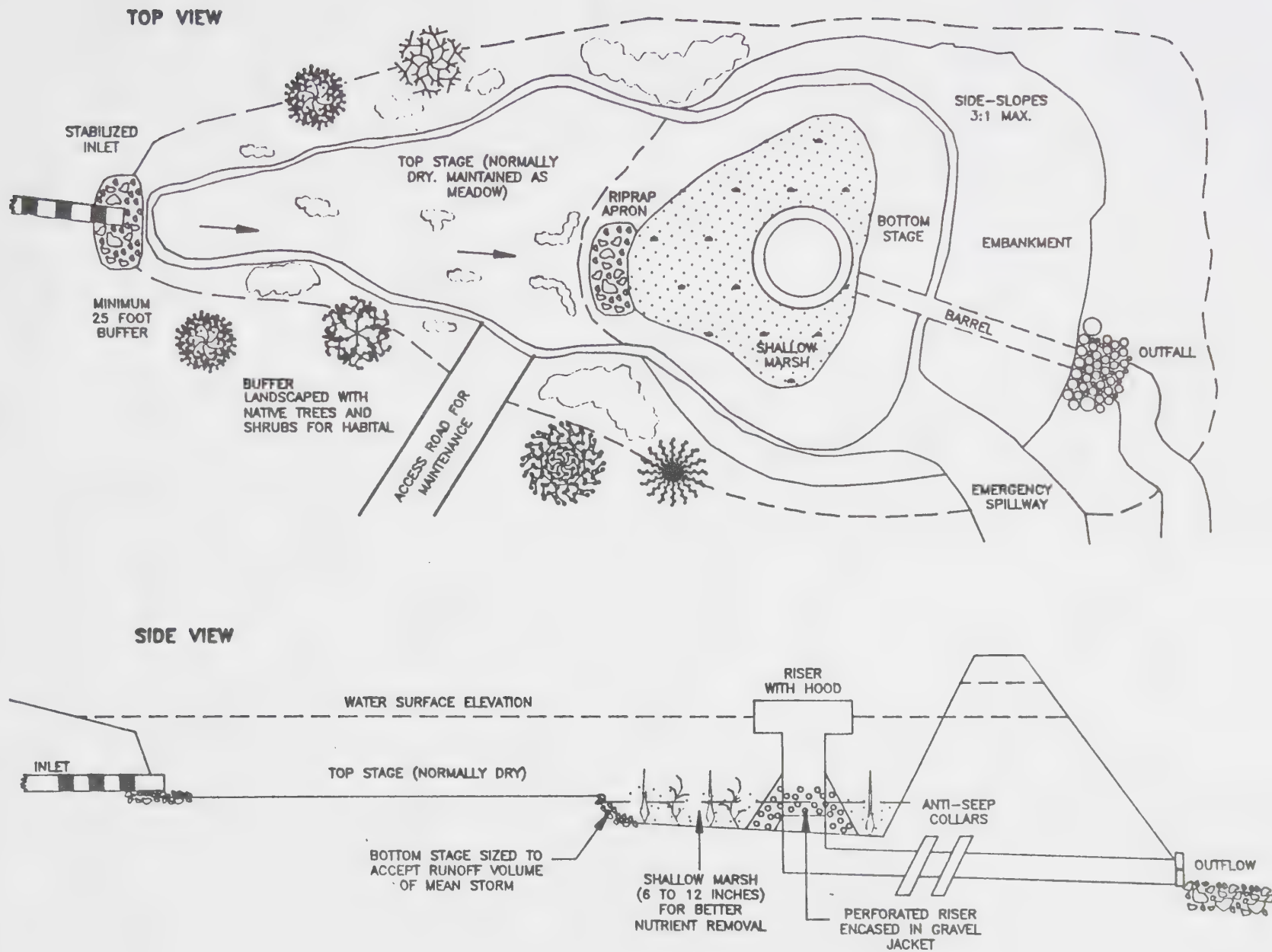
⁷ Treated under process conditions determined by the DTSC to make the effluent free of a detectable, viable oocyst or cyst of *Cryptosporidium*, *Giardia* and *Entamoeba* in 40-liter samples.

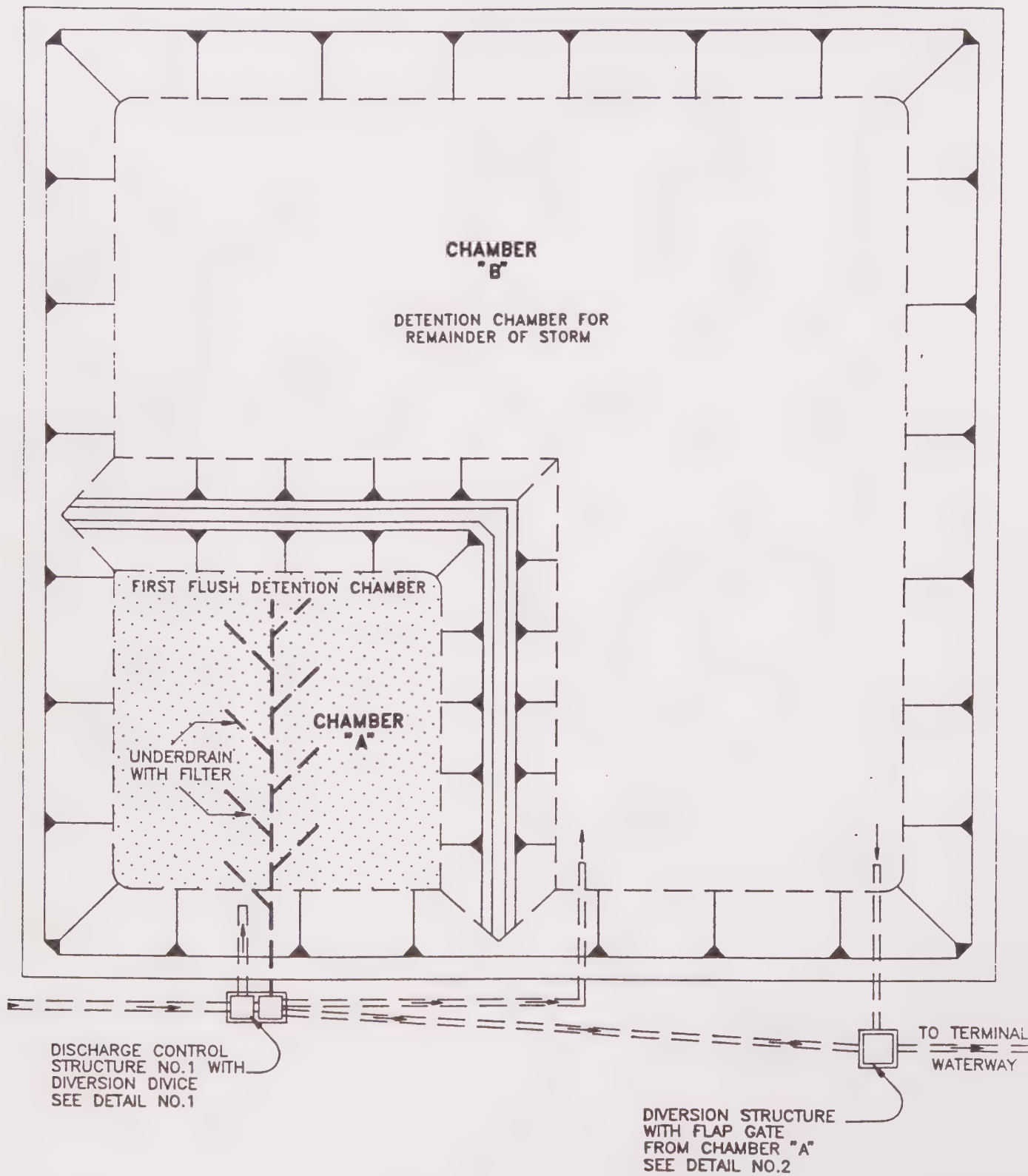
APPENDIX 10.10

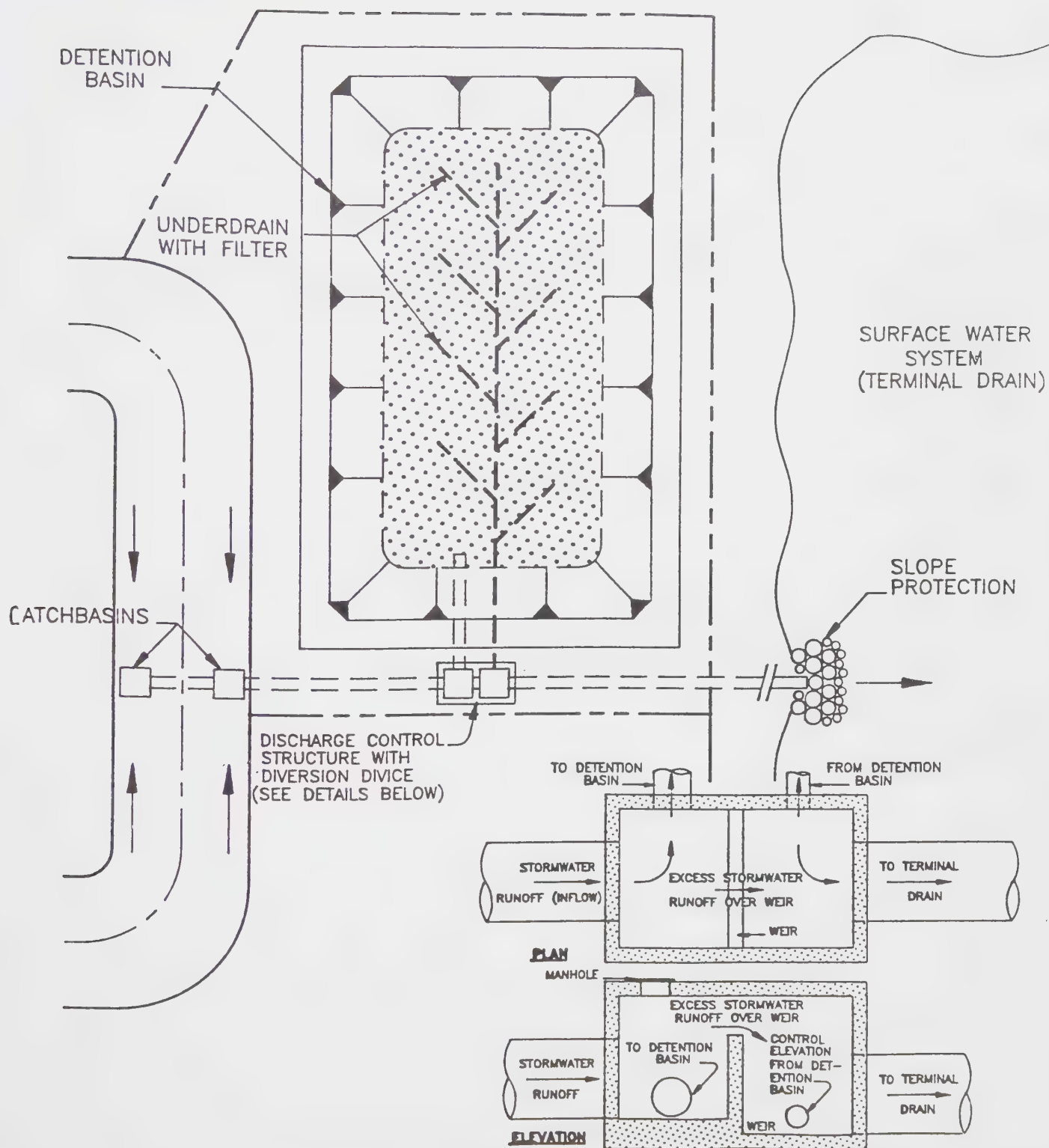
**STORM DETENTION BASIN EXAMPLES
AND STORM RUNOFF WATER QUALITY DATA**

DETENTION BASIN - "FIRST FLUSH" TREATMENT

10.10-1







TYPICAL NEIGHBORHOOD DETENTION BASIN w/ "FIRST FLUSH" TREATMENT

TABLE 10.10-1

**HEAVY METAL CONCENTRATIONS IN
URBAN RUNOFF AND OLD RIVER
($\mu\text{g/L}$)**

Chemical	National Urban Runoff Study¹	Santa Clara Valley Study²	Range of Concentration Measured in Old River³
Cadmium	NA	1-1.8	<5.5 ⁴
Copper	47	22-47	<5-40 ⁴
Chromium	NA	7-25	<5-10 ⁴
Lead	180	4-63	<5-60 ⁴
Zinc	176	47-295	<6-30 ⁴

¹ Number shown is the flow-weighted mean concentration measured in the study (Schueler, 1987).

² Range shown is the site median concentrations measured from six different urban drainage areas in Santa Clara Valley, California (Santa Clara Valley Water District, 1987).

³ Range of concentrations measured in 25 samples collected from Old River opposite Rancho del Rio between 1976 and 1990 (Ferris, 1991)

⁴ The "<" symbol indicates that some of the measurements were below the detectable concentration shown following the symbol.

Notes: NA = Not available.
 $\mu\text{g/L}$ = Micrograms per liter.

APPENDIX 10.11

SEISMICITY INFORMATION

APPENDIX 10.11

SEISMICITY

The distribution, recurrence, and intensity of earthquakes over a period of time describe the seismicity of a region. Earthquakes occur as the result of the release of stored energy that can cause the rupture of brittle earth materials within and at the surface of the earth. The rupture surface along which the earth is displaced, one side relative to the other, is called a fault. Surface expression of this displacement is referred to as a fault trace or fault line. The recognition of enduring expression of ground surface rupture is the primary source of evidence used by geologists to identify the location of faults. Many historic, damaging earthquakes have not produced ground surface rupture.

The occurrence of an earthquake produces seismic waves that emanate in all directions from the origin of the earthquake, or epicenter. The seismic waves cause groundshaking which is typically strongest at the epicenter and diminishes (attenuates) as the waves move through the earth away from the source of the quake. The severity of groundshaking at any particular point is referred to as intensity and is a subjective measure of the effects of groundshaking on people, structures, and earth materials. Intensity is typically expressed by the Modified Mercalli Scale (Table 10.11-1). The effects of ground shaking on structures depends on the design, quality of construction, and foundation materials.

Seismic waves and associated ground motion generated by earthquakes can also be detected and measured by instruments called seismographs and accelerometers. The measurement of the energy released at the point of origin, or epicenter, of an earthquake is referred to as the magnitude, which is generally expressed by the Richter Magnitude Scale. The Richter Scale is logarithmic; each successively higher Richter Magnitude reflects an increase of about 31.5 times the amount of energy released by an earthquake. As such, the Richter magnitude is a specific measurement of the power of an earthquake as it occurs.

ACTIVE AND POTENTIALLY ACTIVE GEOLOGIC FAULTS IN THE PROJECT VICINITY

The following discussion provides additional information about seismic activity and the potential for future earthquakes in the project vicinity and supplements the discussion found in Section 4.6, Geology, Soils, and Seismicity. The reader may wish to refer to Table 4.6-1 and Figure 4.6-4 in the main text for graphic and tabular presentation of data.

ACTIVE FAULTS

San Andreas Fault Zone

The San Andreas Fault Zone, a complex right-lateral strike slip fault zone, extends over 600 miles from the Gulf of California in Mexico to Cape Mendocino in northern California. The SAFZ has been divided into discrete segments on the basis of historic seismicity and evidence of ground surface rupture (USGS, 1990). Segments of the SAFZ capable of generating earthquakes which could affect the project site include the North Coast segment, the San Francisco Peninsula segment, and the southern Santa Cruz Mountains segment. The SAFZ is located approximately 46 miles west of the project site.

TABLE 10.11-1
MODIFIED MERCALLI SCALE¹

Intensity			Effects	v , ² cm/s	g , ³
M ⁴ 3	I.		Not felt. Marginal and long-period effects of large earthquakes.		
	II.		Felt by persons at rest, on upper floors, or favorably placed.		
	III.		Felt indoors. Hanging objects swing. Vibration like passing of light trucks. Duration estimated. May not be recognized as an earthquake.		0.0035-0.007
4	IV.		Hanging objects swing. Vibration like passing of heavy trucks; or sensation of a jolt like a heavy ball striking the walls. Standing motor cars rock. Windows, dishes, doors rattle. Glasses clink. Crockery clashes. In the upper range of IV wooden walls and frame creak.		0.007-0.015
	V.		Felt outdoors; direction estimated. Sleepers awakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing, close, open. Shutters, pictures move. Pendulum clocks stop, start, change rate.	1-3	0.015-0.035
	VI.		Felt by all. Many frightened and run outdoors. Persons walk unsteadily. Windows, dishes, glassware broken. Knickknacks, books, etc., off shelves. Pictures off walls. Furniture moved or overturned. Weak plaster and masonry D cracked. Small bells ring (church, school). Trees, bushes shaken (visibly, or heard to rustle - CFR).	3-7	0.035-0.07
5	VII.		Difficult to stand. Noticed by drivers of motor cars. Hanging objects quiver. Furniture broken. Damage to masonry D, including cracks. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices (also unbraced parapets and architectural ornaments - CFR). Some cracks in masonry C. Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Concrete irrigation ditches damaged.	7-20	0.07-0.15
	VIII.		Steering of motor cars affected. Damage to masonry C; partial collapse. Some damage to masonry B; none to masonry A. Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, elevated tanks. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off. Branches broken from trees. Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes.	20-60	0.15-0.35
	IX.		General panic. Masonry D destroyed; masonry C heavily damaged, sometimes with complete collapse; masonry B seriously damaged. (General damage to foundations - CFR.) Frame structures, if not bolted, shifted off foundations. Frames racked. Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground. In alluviated areas sand and mud ejected, earthquake foundations, sand craters.	60-200	0.35-0.7
6	X.		Most masonry and frame structures destroyed with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Rails bent slightly.	200-500	0.7-1.2
	XI.		Rails bent greatly. Underground pipelines completely out of service.		>1.2
	XII.		Damage nearly total. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into the air.		

¹ From Richter (1958).

² Average peak ground velocity, cm/s.

³ Average peak acceleration (away from source).

⁴ Richter magnitude correlation.

- Notes:** Masonry A, B, C, D. To avoid ambiguity of language, the quality of masonry, brick or otherwise, is specified by the following lettering (which has no connection with the conventional Class A, B, C construction).
- *Masonry A:* A Good workmanship, mortar, and design, reinforced, especially laterally, and bound together by using steel, concrete, etc; designed to resist lateral forces.
 - *Masonry B:* Good workmanship and mortar, reinforced, but not designed to resist lateral forces.
 - *Masonry C:* Ordinary workmanship and mortar; no extreme weaknesses such as non-tied-in corners, but masonry is neither reinforced nor designed against horizontal forces.
 - *Masonry D:* Weak materials, such as adobe; poor mortar; low standards of workmanship; weak horizontally.

The 1906 San Francisco earthquake, a magnitude¹ 8.3 event, resulted in rupture of all of these segments and produced moderately intense ground shaking (Mercalli equivalent of VI to VII) in the western San Joaquin Valley (Lawson *et al.*, 1908). The USGS (1990) estimates the probability of an MCE of magnitude 8 on the North Coast segment of the fault within the next 30 years to be two percent. The magnitude 7.1 Loma Prieta earthquake in 1989, which occurred along the southern Santa Cruz Mountain segment, produced Modified Mercalli Intensity (MMI) VI in the area of the project site (USGS, 1989). The probability of a similar earthquake on this segment in the next 30 years is estimated to be less than one percent (USGS, 1990). The San Francisco Segment of the SAFZ is expected to produce an MCE of magnitude 7 with a probability of 37 percent within the next 30 years (USGS, 1990).

Considering the distance of the project site from the SAFZ, the estimated peak ground acceleration produced at the site during the expected magnitude 8 MCE would be 0.18g. The expected maximum MMI associated with this event would be VIII.

Hayward Fault Zone

The Hayward Fault Zone (HFZ) is a right-lateral strike slip fault zone within the SAFZ which extends approximately 60 miles from San Jose northwestward to Point Pinole near Richmond. The fault zone has been divided into a northern and southern segment on the basis of seismicity and fault rupture history (USGS, 1990). The Rodgers Creek Fault Zone, extending from San Pablo Bay to north of Santa Rosa, is considered to be a possible extension of the HFZ. Major earthquakes in 1836 and 1868, both estimated to be magnitude 7 events, occurred along the HFZ. An earthquake of similar magnitude on either segment of the zone is considered to have a probability of 39 percent in the next 30 years. The probability of a magnitude 7 event on the Rodgers Creek Fault Zone is estimated to be 33 percent over the same period (USGS, 1990).

The HFZ is located approximately 27 miles west of the project site. The estimated peak ground acceleration at the project site an MCE on the HFZ would be approximately 0.16g. A maximum MMI of VII to VIII would be expected at the project site during such an event.

Calaveras Fault Zone

The Calaveras Fault Zone (CFZ) is located east of the HFZ at a distance of approximately 21 miles west of the project site. This right-lateral strike slip system extends approximately 100 miles northwestward from Hollister as a complex zone of faulting. Recorded seismicity in the vicinity of the fault includes over 50 earthquakes of MMI of V or greater in the period 1930 to 1972 (Armstrong *et al.*, 1980) and Richter magnitude 6 events in 1979 and 1984. The maximum credible earthquake for this fault zone is estimated to be moment magnitude 6.3 to 7.5 (Wesnousky, 1986; Mualchin and Jones in preparation). Using the higher estimate for the MCE, the expected peak acceleration at the site would be 0.19g with an associated MMI of VIII.

Greenville Fault Zone

The Greenville Fault Zone (GFZ) has been interpreted as being the easternmost of the major branches of the SAFZ. The GFZ is a 90-mile long system of northwest trending fault segments which include the Clayton, Marsh Creek, Greenville, and Arroyo Mocho segments. Historic seismicity within the GFZ includes a swarm of earthquakes in January 1980 which included Richter magnitude 5.5 and 5.8 events; these events generated surface fault rupture in the Livermore area. The relationship of the GFZ to several faults considered to be potentially active, including the Tesla, Corral Hollow, Carnegie, and Patterson Pass Faults, is not well studied. Recent investigations in the southwestern corner of San Joaquin County have uncovered evidence of Holocene activity on the Corral Hollow fault (Carpenter, 1991).

Estimates of the MCE for the Greenville Fault Zone range from moment magnitude 6.8 to 7.25 (Wesnousky, 1986; Mualchin and Jones in preparation). The occurrence of a magnitude 7 earthquake on this fault, located approximately 8 miles west of the project site, would generate ground acceleration of approximately 0.50g. The associated MMI could be as high as IX.

Green Valley-Concord Fault Zone

The Green Valley and Concord Faults are the primary faults of a two-mile wide complex fault zone located approximately 27 miles west of the project site. The fault zone extends from east of Benicia to east of Walnut Creek. Active seismicity and fault creep (noted in Concord) have been attributed to the zone (Ellsworth, *et al.*, 1982). Historic seismicity in the fault zone includes a Richter magnitude 5.4 event in 1955. A swarm of earthquakes in 1989, centered near Alamo, appears to have occurred on a fault located between the Concord and Calaveras faults, suggesting a link between the two major fault zones (Oppenheimer, 1991). The estimated MCE for the Green Valley and Concord faults is estimated to be moment magnitude 7. The effects of the MCE on this fault would be similar to those described for the Hayward Fault.

Antioch Fault

The Antioch Fault is located near Antioch approximately 16 miles northwest of the project site. Numerous small to moderate earthquakes, including nine earthquakes with Richter magnitudes in the 2.5 to 5.0 range, were recorded in the vicinity of the fault from 1962 to 1971. The fault trends northwest, but its total length is unknown. The MCE for this fault is estimated to be moment magnitude 6.75 (Wesnousky, 1990).

Ortogonal Fault Zone

The Ortogonal Fault Zone is a northwest-trending zone along the eastern edge of the Diablo Range. Evidence of Holocene movement (Anderson, *et al.*, 1982) and active seismicity have been identified along some segments of the fault zone. A Richter magnitude 5 earthquake in 1926, a magnitude 3.7 in 1981, and smaller earthquakes monitored from 1969 to 1980 occurred in the vicinity of this fault zone.

The Ortogonal fault zone is considered capable of generating earthquakes of Richter magnitude 6.5 to 6.75 (Anderson, *et al.*, 1982). The recurrence of earthquakes resulting in surface rupture is on the order of 5,000 to 10,000 years for the entire fault zone. The O'Neill Fault system, the northernmost segment of which is about 30 miles southeast of Stockton, is considered to be related to the Ortogonal Fault (Lettis, 1982).

Sufficient evidence of recent fault rupture on this segment has not been identified to warrant zoning under the Alquist-Priolo Act (Hart, 1990), and this fault is considered to be potentially active.

POTENTIALLY ACTIVE FAULTS

San Joaquin Fault Zone

The San Joaquin Fault Zone is located along the western edge of the San Joaquin Valley extending from north of Tracy southeast to south of Los Banos. The San Joaquin Fault system has not been extensively studied. The fault is considered capable of generating an earthquake of magnitude 6.6 and evidence suggests a recurrence interval of about 1,000 years (Wesnousky, 1986). The mapped trace of the fault within San Joaquin county does not have sufficient evidence of surface rupture to be considered active within the guidelines of the Alquist-Priolo Act (Hart, 1990).

Midway Fault

The Midway Fault is a northwest-trending fault in the foothills of the Diablo Range. This fault is located approximately two miles west of the project site. Although the Midway Fault has been mapped as a poorly defined fault, only the northern portion of the fault is currently considered active as far south as southwestern San Joaquin County (Dibble, 1980). A maximum earthquake of moment magnitude 6.3 with a recurrence interval of about 2,600 years has been suggested for this fault (Wesnousky, 1986).

Midland Fault

The Midland Fault extends northwest from Brentwood in the Delta to east of Lake Berryessa in Yolo County for a length of approximately 62 miles. For most of its length, the fault is concealed by sediments.

The fault has been considered a possible seismic source for the 1892 Vacaville earthquakes (Richter magnitude 6.8). Recent studies (Bolt, 1985; Eaton, 1986) suggest that the seismic source for the earthquake was west of the Midland Fault, but do not preclude the possibility that the fault was the source of the 1892 earthquakes. The Midland Fault is therefore considered a potential source of earthquakes and an MCE of Richter magnitude 7.0 (Greensfelder, 1974) has been assigned to this fault.

Patterson Pass-Black Butte

The Patterson Pass Fault and Black Butte Fault are northwest-trending faults in the foothills of the Diablo Range in the southwestern corner of the county. The faults may be an extension of the Midway Fault. Geomorphic evidence suggests Quaternary activity on these faults, but there is insufficient evidence of Holocene activity for regulation under the Alquist-Priolo Act (Hart, 1990).

Tesla Fault

The Tesla Fault is a mapped fault in the southeastern portion of the Tracy Planning Area. The fault has been described as a northward extension of the Ortigalita Fault (Oakeshott, 1980). Little evidence exists of Holocene or Quaternary activity on this fault, although seismicity (including a Richter magnitude 4.6 earthquake in 1946) has been recognized in the vicinity of the fault (Bolt, 1985). The fault has been interpreted as being a remnant of an older, inactive fault system. Young active faults, such as the Greenville Fault, offset the Tesla Fault.

ENDNOTE

1. Throughout this discussion earthquake magnitude has been reported according to magnitude scales used in the referenced document. Where possible, moment magnitude has been used. The USGS provides the following discussion of magnitude:

Magnitude. A number that characterizes the size of an *earthquake*, usually based on measurement of the maximum **amplitude** recorded by a *seismograph* for earthquake waves of a particular *frequency*. Scales most commonly used are (1) local magnitude (M_L , commonly referred to as "Richter magnitude"), (2) surface-wave magnitude (M_S), and (3) body-wave magnitude (m_b). None of these scales satisfactorily measures the largest possible *earthquakes* because each relates to only certain frequencies of **seismic waves** and because the spectrum of radiated seismic energy changes with the earthquake size. The recently devised moment magnitude (M) scale, based on the concept of seismic moment, is uniformly applicable to all sizes of earthquakes.

Body-wave magnitude (m_b): Measures the type of waves that pass through the interior - the body - of the planet and that have a period of between 1 to 10 seconds.

Local magnitude (M_L): A scale most accurately applied when dealing with California earthquakes. It is still quite useful today for describing smaller and more moderate earthquakes, but is not useful in larger earthquakes.

Surface-wave magnitude (M_S): Scale formulated to describe earthquakes at distant locations. The scale principally measures **surface waves** with a 20-second period, or a wavelength of approximately 37 miles.

Moment magnitude (M): This is today perhaps the most meaningful scale for large and great earthquakes, in that it measures total energy released. The measurement takes into account the surface area of the fault that moved to cause the earthquake, plus the average displacement of the fault plane, and the rigidity of the material of the fault. A seismic moment, M_0 , is the result, and when that is combined with an energy-magnitude formula, the outcome is a common means of measuring the greatest earthquakes on the planet, such as in Alaska, 1964, and Chile, 1960. This scale was developed very recently, which is why great earthquakes, such as that in Alaska in 1964, which were once related in the M_S 8.5 range have been upgraded to an M rating in the low 9s.

APPENDIX 10.12

HYDRAULIC AND WATER QUALITY REPORT

Hydraulic and Water Quality Impact of the
Proposed Mountain House New Town on the
Sacramento - San Joaquin River Delta

Prepared By:

Donald J. Smith
Associate

Resource Management Associates, Inc.
3738 Mt. Diablo Blvd, Suite 200
Lafayette, CA 94549

April 16, 1991

INTRODUCTION

The northern limits of the proposed Mt. House New Town will be a 2.8 mile section Old River. Due to the proximity of the new town to Old River and other Delta channels, certain potential hydrologic and water quality impacts must be evaluated. This report addresses the potential impacts of the marina proposed for the project, increased stormwater inflows associated with urbanization and winter time reclaimed wastewater discharges to Old River.

The marina will be located on the south side of Old River approximately 3500 feet east of the Delta Mendota Canal (DMC) intake channel. The additional of the marina will result in increased boat traffic in Old River and adjacent Delta channels and will modify Delta channel current velocities. Within the marina, water quality and sedimentation will be controlled by the exchange rate between the marina and Old River.

Mt. House Creek will be channelized to prevent flooding within the new town and runoff within the urbanized area will increase due to increased impervious areas and improved stormwater conveyance facilities. These factors will dramatically increase the peak stormwater runoff rate to Old River which in turn will increase water surface elevations and current velocities within many Delta channels. The sediment and water quality characteristics of the stormwater will also be changed as the land use changes.

The present proposal for reclaimed wastewater management is to maximize the use of reclaimed wastewater for irrigation and minimize the discharge of reclaimed wastewater to Old River. Present estimates are that reclaimed wastewater discharges to Old River will occur over a three month period during a typical year. These discharges will increase the level of plant nutrients and other water quality parameters in Old River and adjacent Delta channels. Some of these waters will reach the State Water Project (SWP) and Central Valley Project (CVP) export locations at Clifton Court and the Tracy Pumping Plant respectively.

The conditions within the Delta which will influence the impacts of the Mt. House project will likely be changing over the next decade or two. Specifically, some channel enlargement, an expanded Clifton Court Forebay, and several tide gate facilities are proposed for the Delta (1,2). These improvements, shown on Figure 1, are designed to increase water surface elevations in selected channels, increase the maximum export rate, and add flexibility to operation of the SWP. The tide gate structures proposed for Old and Middle Rivers and Grantline Canal will have a profound effect on the hydraulics of Old River adjacent to the project. Water flowing east in Old River through the proposed tide gates on the raising tide will be prevented from flowing west on the falling file. The tide gate facilities, which will be operated primarily during the irrigation season, will result in near zero

velocities in Old River east of the proposed Mt. House Marina over much of the tidal cycle during many of the spring, summer and fall months.

To evaluate the effects on Delta hydraulics and estimate sedimentation rates and the potential for water quality problems within the Old River, adjacent Delta channels and within the proposed marina, hydrodynamic and water quality models were utilized. Since it is unknown when or if the tide gate facilities described above will be constructed, both with and without tide gate conditions were evaluated when appropriate. The enlarged Clifton Court Forebay and channel enlargements were assumed in all simulations.

Project Impacts and Possible Mitigation Measures

As a result of our analysis, the following impacts and mitigation measures have been identified.

Mt. House Marina

1. Channel velocities in Old River west of the marina entrance will increase by up to 80%. Without the marina, velocities in this channel are low and the increase will have the beneficial effect of reducing the sedimentation rate in Old River.
2. Velocities in Old River in the vicinity of Grantline Canal may increase up to 2% and cause additional scour.

Mitigation - A review of existing channel conditions in this area should be made to ensure that a 2% increase in channel cross section area will not create levee stability problems. If a problem is identified, channel erosion protection measures should be implemented.

3. The hydraulic residence at the distal end of the marina will be approximately 10 days creating the potential for stale water conditions and algal blooms.

Mitigation - Implement strict controls of non-point sources including:

- a. Collection facilities for both sanitary wastes and bilge water from boats
- b. Strict control of fueling and other petroleum products,
- c. Prevent direct surface water runoff to the marina, and
- d. Provide an aggressive public awareness and education program to encourage use of the pollution control facilities.

In addition to these controls, a right of way should be provided which connects Old River with the distal end of the marina so that a pipeline can be added later if marina water quality proves to be substandard and it is determined that a net benefit can be realized by adding a forced circulation system.

4. The sedimentation rate within the marina is estimated at approximately 1/2 foot per year, therefore, maintenance dredging will be required.

Mitigation - The marina should be excavated to an initial depth which allows for dredging intervals of 10 years or more to minimize adverse water quality effects associated with dredging. Maintenance dredging should minimize entrainment of mud into the water column. Land disposal of dredge spoils will be required. The most likely disposal site would be on Fabian Tract north of Old River in the vicinity to the new town.

5. Suspended sediments associated with initial construction may adversely impact water quality in Old River.

Mitigation - During the marina construction phase, as much of the excavation and facilities construction as possible should be complete before breaching the levee.

Storm Water Discharge

1. The water surface elevation in Old River may raise up to 0.3 feet during a 100 year storm due to increased runoff and channelization of Mt. House Creek. The increased stage may jeopardize levee stability if the increase stage encroaches into the levee freeboard.

Mitigation - The condition of south Delta levees should be evaluated to determine if the anticipated stage increase will adversely effect levee integrity. Adverse effects associated with the increase in stage should be corrected prior to increasing project stormwater inflows.

2. Channelization of Mt. House Creek may increase the bedload component of suspended sediment reaching Old River and may create a sand bar in the river.

Mitigation - Construct an enlarged section of Mt. House Creek upstream of Old River to act as a sediment trap to prevent the bedload component of the suspended sediment from reaching Old River.

Reclaimed Wastewater Discharge

1. A minimum dilution of 10 to 1 will require a flow rate of 100 cfs in Old River to dilute a reclaimed wastewater flow of 10 cfs. Flow rates below 100 cfs were predicted for up to 30% of the tidal cycle and for periods of up to 2 hours near slack water.

Mitigation - To achieve a minimum dilution of 10 to 1 at all times, storage facilities should have adequate capacity to store reclaimed wastewater during periods when river flows cannot provide the minimum dilution. Discharge controls should include a continuous current meter in Old River to determine when adequate dilution can be achieved

2. The waters of Old River downstream of the outfall will have, on average, a 7% reclaimed wastewater component.

Mitigation - The wastewater treatment facilities should provide the best possible treatment with reliable equipment to minimize the potential for adverse water quality impacts in Old River. A no discharge alternative should be seriously considered since this section of Old River has a very limited pollutant assimilation capacity due to the low river flow rates.

3. The estimated total nitrogen level in the CVP export originating from the discharge could result in slightly higher concentrations in San Luis Reservoir and may contribute to phytoplankton growth during the summer if phytoplankton production is limited by nitrogen.

Mitigation - Consider a no discharge alternative since there is no practical way to reduce total nitrogen in the reclaimed wastewater.

A detailed description of the study results which led to these conclusions and recommendations are presented in the following sections.

MODELING APPROACH

Two types of models were utilized to evaluate the effects of the proposed Mt. House New Town project. Link-node hydrodynamic and water quality models (3) were used to evaluate the effects of the project on velocities, stages and water quality in Old River and in adjacent Delta channels and to provide flow and stage boundary conditions for a detailed model of the marina. The link-node hydrodynamic model represents the Delta as a variable grid network of "nodes" and channels (or "links"). Nodes are discrete volume units of the water body characteristics by surface area, depth, side slope and volume. The nodes are interconnected by channels, each having associated length, width, cross section area, hydraulic radius, side slope and friction factor. Water is constrained to flow between adjacent nodes through

these channels. The time dependant hydraulic response of the Delta is simulated by imposing a tide at Benicia and tributary inflow, export and the consumptive use rates within the Delta. The water quality model utilizes the intertidal hydrodynamics computed by the hydrodynamic model to compute the time history of various conservative and nonconservative water quality parameters throughout the Delta. Both Models have been used extensively by the RMA, the DWR and others to evaluate the hydraulic and water quality behavior of the San Francisco Bay-Delta system.

The detailed analysis of the marina utilized the hydrodynamic model RMA-2V (4) and the water quality transport model RMA-4 (5). Both models utilize the finite-element numerical method to compute tidal currents and concentrations or dilution of water quality parameters. RMA-2V is a generalized two-dimensional depth averaged free surface hydrodynamic model which is used to compute a continuous temporal and spatial description of fluid velocities and depths throughout an estuary or river system. RMA-4 is a generalized two-dimensional depth averaged water quality model which computes a temporal and spatial description of conservative and nonconservative water quality parameters. RMA-4 uses the results from the RMA-2V for its description of the flow field over a complete tidal cycle. These models were developed by RMA under the sponsorship of the U.S. Army Corps of Engineers and have been used to evaluating similar projects within San Francisco Bay Delta system and other estuaries throughout the U. S.

Model Representation

A link-node representation of the Delta inland from Benicia, developed jointly by RMA and the DWR (see Figure 2), was modified to account for the proposed marina. The original network has been calibrated by the DWR and RMA for a wide range of flow and tidal boundary conditions and has been shown to accurately represent Delta hydraulics. Additional modifications were made to reflects future conditions. These modifications includes channel enlargements, an enlarged Clifton Court Forebay and control structures described in Bulletin 160-87 (1) and South Delta EIR (2).

The finite element representation (see Figure 3) includes the proposed marina and a section of Old River extending from the DMC intake channel to the proposed Old River tide gate structure.

EFFECTS OF THE PROPOSED MARINA

The evaluation of the effects of the proposed marina was performed using a single set of hydrologic condition. A typical tide which resulted in a diurnal range of approximately 4.0' at the marina was used along with the following major inflow and export rates.

Sacramento River	19,000 cfs
San Joaquin River	1,800 cfs
SWP and CVP Exports	4,600 cfs each
Net Channel Depletions	4,300 cfs

Net Delta Outflow

6,800 cfs

These rates are representative of conditions which often prevail in July when the striped bass export limitations are in effect. Summer conditions were evaluated since water quality problems are most likely to occur when water temperatures are elevated.

Delta Wide Effects

The addition of the proposed marina will increase the water surface area in the southern Delta which in turn will increase the volume of water required to maintain present tidal levels. The increased volume will result in increased flow velocities. The effects of the increased surface area will be greatest in the channels adjacent to the marina. Detrimental effects of higher channel velocities include the potential for increased bottom and bank scour and increased potential for boating accidents. Beneficial effects of higher velocities include increased circulation which may enhance water quality and the reduce sediment deposition.

The link-node model was used to quantify these changes. The model was run for the hydrologic conditions described above with and without the proposed marina and with and without the tide gates proposed for Old River, Grantline Canal and Middle River. The simulation results indicated that the addition of the marina will have little effect on tidal stages in the southern Delta. The greatest computed difference was 0.02 feet in Old River adjacent to the marina. A change of this magnitude represents 0.5% of the diurnal tidal range and has no significance.

The effects on channel flows and velocities are somewhat more pronounced. Table 1 shows the maximum computed velocity and flow in selected Delta channels. The largest change occurred in Old River west of the marina entrance. With the addition of the marina, the maximum velocity was increased from 1.16 to 1.42 ft./sec and from 0.58 to 1.05 ft./sec for without and with tide gate cases respectively. These changes would be considered beneficial since increased velocities will help limit the rate of sediment deposition in Old River. The maximum computed velocities in Old River north of Grantline Canal was increased from 2.26 to 2.30. The threshold velocities for scour is approximately 3.0 ft./sec. With a computed maximum velocity of 2.30 ft./sec (velocity averaged over the entire cross section) there may be some localized increase in scour associated with adding the marina. The cross sectional area of channels at scour equilibrium would increase by approximately 1.8% to maintain the equilibrium. None on the increases in velocity should contribute to boating hazards.

Local Effects

Local effects of the marina deal with Old River adjacent to the marina and to the proposed marina its self. Of primary concern is the anticipated water quality characteristics and sediment deposition rates within the marina. These concerns were evaluated for typical summertime conditions using the two dimensional model described above and the

network representation shown on Figure 3. Flow and stage boundary conditions were computed using the link-node model and a bottom elevation of -8.0 feet mean lower low water was assumed.

Flow Velocities

Flow velocity patterns in Old River and the entrance to the marina are shown on Figures 4 and 5 for the no tide gate and with tide gate configurations respectively. Each figure shows typical flood and ebb velocities. The highest velocities in the marina entrance would occur during the ebb phase of the tide when the proposed Old River tide gates prevents westerly flow in Old River. This condition results from a more rapid drop in the tide level due to the absence of the westerly Old River flow. The maximum computed velocity in the marina entrance is approximately 0.8 ft./sec and there are no unusual current patterns. Therefore there should be no velocity conditions which contribute to boating hazards.

Water Quality

The potential for water quality problems was evaluated by computing the hydraulic residence time within the marina. The hydraulic residence time is the length of time a particle of water and it associated water quality parameters has resided in the modeled system. In this case, the modeled system includes the marina and Old River between the DMC intake channel and the Old River tide gate. Contours of the computed maximum, minimum and average hydraulic residence times are shown on Figures 6 and 7 for the no tide gate and with tide gate configurations respectively.

The maximum computed residence time at the distal end of the marina is approximately 10 days and 12 days for the without tide gate and with tide gate condition. The difference between the residence times is caused by the increase in diurnal tide fluctuation associated with operation of the tide gate. A 10 day residence time would be considered relatively long and there is a good potential for stale water conditions and algal blooms. The very low velocities may result in thermal stratification during periods of low wind stress which would exacerbate algal problems. Water clarity will also increase within the marina as fine silt and other particulates settle and accumulate on the bottom. The increased light transparency will also contribute to phytoplankton production.

Possible mitigation would be a forced circulation system which would pump water from Old River to the distal end of the marina. It is estimated that a flow of approximately 25 cfs would reduce residence time to less than 5 days and help control algal blooms. Adverse effects of a forced circulation system would be increased sedimentation and introduction of additional plant nutrients which would promote growth of attached algae and aquatic plants within the marina.

It is clear that there is the potential for water quality problems within the marina particularly during the summer and fall months. Therefore it is particularly important to control non-point

sources of nutrients and other pollutants within the marina. Non-point pollution control should include:

1. Collection facilities for both sanitary wastes and bilge water from boats,
2. Strict control of fueling and other petroleum products,
3. Prevent direct surface water runoff to the marina, and
4. Provide an aggressive public awareness and education program to encourage use of the pollution control facilities and promote good boating practice.

In addition to these controls, a right of way should be provided which connects Old River with the distal end of the marina so that a pipeline (approx 30" diameter) can be added later if marina water quality proves to be substandard and it is determined that an net benefit can be realized by adding a forced circulation system.

Other water quality concerns relate to initial construction and maintenance dredging. Adverse water quality effects can be minimized during the construction phase by excavating and constructing as much as of the marina as possible before breaching the levee. Maintenance dredging should minimize entrainment of mud into the water column and all dredge spoils should be disposed of on land.

Sedimentation

During the winter months, stormwater flows in the Sacramento and San Joaquin Rivers contain suspended sediments which will settle and accumulate on the bottom of low velocity channels and backwater areas. San Joaquin River waters flow naturally down Old River past the proposed marina and water from the Sacramento River is often drawn to the southern Delta by the SWP and CVP export pumps. Both of these sources will provide sediments which will accumulate in the marina.

Sedimentation rates vary from year to year depending on hydrologic conditions. The proposed marina will likely experience sedimentation rates similar to other marinas in the area. Del's Marina experiences a long term average sedimentation rate of approximately one half foot per year (6). The proposed marina will likely experience a similar rate near the entrance and a slightly lower rate at the distal end. Sediment accumulation will eventually interfere with the operation of the marina. As the depth decreases, the potential for algal blooms will also increase since euphotic zone will become a larger fraction of the water column.

To maintain suitable water depths, maintenance dredging will be required. The design depth should be selected to allow reasonable length of time between dredging events. Dredging will likely be accomplished by a suction dredge with land disposal. The best disposal site appears to be on Fabian Tract on the north side of Old River. The dredge spoils could be pumped to the island via a submerged temporary

pipeline. Adverse effects would be limited to temporally removing some agricultural land from production during dredging and spoils drying (one growing season). Farmers will generally accept dredge spoils since they raise the land elevations. Low levels of toxins which may accumulate in the sediment generally do not create problems for agricultural. Dried dredge spoils may also be suitable for levee maintenance materials after drying.

EFFECTS OF STORMWATER DISCHARGE

Storm water impacts may include discharge of pollutants into Old River which may degrade water quality and hydraulic effects of increased flow into the southern Delta. Development of the Mt. House New Town will change the character and quantity of the stormwater runoff.

Hydraulic Effects

Presently, the hydraulic capacity of Mt. House Creek is such that large storm flows are not contained within the banks of the creek and flow overland or through drainage ditches and pond on the land side of the levee. Storm flows which do reach the outlet to Old River flow by gravity through a 48" pipe culvert to the river. The capacity of this culvert is dependant on the difference in head between the creek and Old River, however the maximum flow would be in the range of 150 cfs (based on inlet control). The storm flows which pond on the land side of the levee are then pumped into Old River at an undetermined rate using the agricultural return pumping facilities.

Within the new town, runoff amounts will increase due to the additional of impervious areas and the construction of stormwater collection facilities. However, the primary factor influencing the magnitude of the peak stormwater runoff will be the channelization of Mt. House Creek. The attenuation of the peak caused by ponding and the limited capacity of the culvert connection to Old River will be eliminated.

The total peak 100 year runoff from the new town site plus Mt. House Creek and other miscellaneous upstream watersheds as computed by the developer's engineer (7) is approximately 2,000 cfs. Presently, the peak inflow to Old River from Mt. House Creek and the return water pumping facilities is estimated to be less than 200 cfs.

To analyze the impacts of increased stormwater inflows to Old River, the link-node hydrodynamic model was utilized assuming the following hydrologic conditions.

Sacramento River	50,000 cfs
San Joaquin River	50,000 cfs
SWP and CVP Export	1,000 cfs each

A extreme tide was assumed with all elevations adjusted upward two feet to account for storm effects. All of the south Delta tide gates were assumed open since closed gates would cause flooding during

high runoff events. The peak of the Mt. House creek hydrograph was phased to coincided with high tide at the site. The 50,000 cfs San Joaquin River flow is the approximate channel capacity of the river upstream of the Delta and represents a return interval of approximately 60 years (8). Under present channel conditions, 50,000 cfs is the maximum amount of water which can enter the Delta from the San Joaquin River even though the 100 year flow is approximately 80,000 cfs.

Storm flows generated from a single storm event would peak in Mt. House Creek long before the peak flow in the San Joaquin River would reach the Delta. However, an extended intense rainy period could result in a prolonged San Joaquin River flow at the channel capacity and it is not unrealistic to assume that the 100 year event in Mt. House Creek may occur during such a period. No attempt was made to estimate the return interval of this set of hydrologic conditions. However, the computed maximum stage in the southern Delta channels near the Mt. House New Town are of similar magnitude to those reported by the DWR (9).

Effects on Stage

The increment in the maximum water surface elevation caused by increasing the peak stormwater flow from the project site from 200 to 2,000 cfs is shown in Figure 8. These results show that water surface elevations may increase up to approximately 0.30 feet in the vicinity of Mt. House Creek and the water surface elevation of several miles of channel are increased more than 0.10 feet. The significance of such an increase is related to the condition of the levees. If the increase in stage encroaches into the levee freeboard, the increase would be considered significant.

Most of the south Delta levees are maintained by various reclamation districts. The levee on the south side of Fabian Tract (north side of the Old River channel) is maintained by Maintenance District 773. These levees are in good condition, have experienced very little subsidence and have an estimated freeboard of three feet or more above the 100 year water surface elevation (10). The levee on the south side of Old River are in poorer condition and will require improvement to provide adequate flood protection for the Mt. House New Town. In addition to the Old River Levee, levees will be required on the west and east sides of the new town to protect against flood waters originating from levee breaks outside the limits of the new town.

The condition of other south Delta levees should be evaluated prior to increasing project stormwater inflow to Old River to determine if the anticipated stage increase will adversely effect levee integrity.

Effects on Velocity

During flood events high velocities may cause erosion of levees and channel bottoms which may increase the risk of levee failure. The largest increase in velocity associated with increased Mt. House Creek discharge were computed in Old River west of Mt. House Creek. The maximum velocity in Old River adjacent to the new town was increased from 2.72 to 2.87 ft./sec. The maximum computed velocities is Old River

directly north of Grantline were increased from 4.87 to 4.91 ft./sec. The threshold velocities for scour is approximately 3.0 ft./sec., therefore, channel erosion may be accelerated slightly in Old River north of Grantline Canal. The cross sectional area of this channels at scour equilibrium would increase by approximately 2.0% to maintain the equilibrium. However, since the small increment in velocity occurs over a relative short time interval of a few hours, the risk to levee stability due to increased velocity appears minimal.

Water Quality Effects

Under present conditions, large volume storm flows are not confined to existing creek or drainage channels. During the overland flow and ponding phase of stormwater runoff, accumulated salts and pesticide and fertilizer residues may be leached from the soil. It is difficult to quantify the amount of accumulation, but stormwater or applied water leaching following extended dry periods can result in substantially elevated TDS levels in waters pumped back into Delta channels.

If the new town becomes a reality, overland flow and ponding of Mt. House Creek flows, and the associated leaching, will be eliminated. However, increased levels of pollutants associated with drainage from urbanized areas will likely flow into Mt. House Creek or directly to Old River. The developer plans to store the first 1/2" of runoff in retention ponds to capture by sedimentation some of these pollutants. An aggressive street cleaning program and other source control measures can further reduce the pollutant discharge to Old River.

Stormwater runoff effects on Old River and other Delta channels are difficult to quantify since they are functions of highly variable inflow rates and stormwater quality. To provide some basis for analysis, link-node hydrodynamic and water quality simulations were performed in which a constant flow of 45 cfs (2" per month of runoff from 25.2 square miles) and a 100 unit tracer concentration was assumed. Future conditions (preferred alternative) and above normal year hydrology as described in the South Delta Water Management Plan EIR/EIS were assumed. (Note that the south Delta tide gates were open during this period.) The results of this analysis provide an estimate of the component of Delta water originating within the Mt. House project watershed. The fraction of these waters relative to the total water at selected locations expressed as percent is shown in Table 2. These results represent average conditions during the winter and early spring months.

These results indicate that the effects of stormwater from the Mt. House New Town drainage facilities would be quite localized. If the stormwater had any unusual water quality characteristics, these characteristics would likely be recognizable only in Old River adjacent to the project. The Mt. House stormwater in the CVP and SWP export would be approximately 2.3% and 0.2% respectively. Potential adverse effects on export quality would be limited to the CVP, however, it is not anticipated that there would be anything pollutant in the stormwater which would present a problem in the CVP.

Sedimentation

It is likely that under present conditions, much of the suspended sediment generated in the Mt. House Creek watershed during storm events is deposited in drainage channels or on fields where the stormwater ponds. Channelization of Mt. House Creek will cause the creek's bed load to enter Old River and may create a sand bar in the river.

Therefore, it is recommended that an enlarged section of Mt. House Creek be constructed immediately up stream of the present stream outfall and dredger cut to act as a sediment trap. The enlarged cross section would result in low velocities which would allow the bulk of the bed load component of the suspended sediment to settle to the bottom prior to entering Old River. The specification of this channel section should be based on an analysis of the suspended sediment characteristics of Mt. House Creek or similar creeks. The sediment trap could be an integral part of a wetlands mitigation. Erosion control within the watershed and within the new town during construction would also help control the quantity of sediments entering Old River.

RECLAIMED WASTEWATER DISCHARGE

Reclaimed wastewater discharges to Old River are planned for winter and early spring months (11) during periods when the evapotranspiration potential is too limited to rely on land application. Present estimates are that reclaimed wastewater discharges to Old River will occur over a three month period during a typical year. These discharges will increase the level of plant nutrients and other water quality parameters in Old River and adjacent Delta channels. Some of the reclaimed wastewaters will reach the SWP and CVP export locations. To estimate the effects of these discharges on water quality, the link-node models were utilized.

The Link-node hydrodynamic and dynamic water quality models were used to simulate the effects of a 10 cfs (6.5 mgd) discharge to Old River near the eastern boundary of the proposed new town. The discharge was assigned a conservative tracer concentration to tag the reclaimed wastewater. The ratio of the computed ambient tracer concentration divided by the inflow tracer concentration provides an basis for estimating the increment in any water quality parameter throughout the Delta resulting from the discharge. November through April for dry year 1963-64 and above normal year 1975-75 were simulated. For each period, simulations were made for the "no action" and "preferred alternative facilities" condition as described in the South Delta Management Plan EIR/EIS.

The six months cover the time period when wet weather may result in reclaimed wastewater discharge. The dry year was chosen to evaluate the effects for discharge during periods with the south Delta tide gates would be operating. In reality, it would be unlikely that wet weather reclaimed wastewater discharge would occur while the tide gates were operating since the tide gates are designed to raise water surface

elevations during periods when there is a demand for irrigation water. The above normal year was chosen to reflect more typical wet weather operation conditions.

Hydraulic Effects

The 10 cfs discharge generally represents a very small fraction to the intertidal flow rate in Old River. Except during periods near slack water, the flow and velocity increment would be less than 3%. The greatest change would occur during periods when the tide gates were operating since river flow rates would be lower. Under these conditions, the increment in flow and velocity would be generally less than 5%. Changes in flow and velocity of this magnitude would be insignificant.

Near Field Water Quality Effects

Water quality effects are often described in terms of "near field" and "far field" effects. The results from the link-node quality model are generally limited to evaluating far field effects. However, the hydrodynamic model provides computed channel flows which can provide insights into the potential for adequate initial dilution at the diffuser. A 10 to 1 initial dilution would require a minimum channel flow rate of 100 cfs. During the 12 months simulated, computed flows greater than 100 cfs persist 70% to 80% of the time. The 70% figure occurred when the tide gates were operating. The maximum length of time that channel flows were below 100 cfs (near slack water) was approximately 2 hours.

The flow conditions in Old River computed by the model indicate the performance of a diffuser would be marginal due to the relative shallow depth and the length of time flows are below 100 cfs. A possible option for maintaining adequate initial dilution would be to store the reclaimed wastewater during slack water and discharging only during periods of higher flow. A current metering program would be required to verify current patterns predicted by the model and to provide a basis for design of the diffuser and operating rules.

Far Field Water Quality Effects

The far field effects of a wintertime reclaimed wastewater discharge to Old River would be limited to Grantline Canal and Old River south of Victoria Canal and west of Middle River. Under typical winter conditions, the CVP and SWP exports result in southerly net flows (of Sacramento River origin) in Old River at Victoria Canal and westerly net flows (of San Joaquin River origin) in Old River at Middle River. During periods when the Old River tide gates were operating, there would be a net circulation easterly in Old River adjacent to the project and west in Grantline Canal. The strong westerly flow in Old River east of Grantline Canal, however, would continue to limit the extent of the reclaimed wastewater plume. The only exception to these trends would be a combination of high San Joaquin River discharge and Low export rates. Under these conditions, the reclaimed wastewater plume would move

further north, however, total dilution would be great due to the high flows.

The results of the far field effects are presented in Tables 4 through 10. Each table presents results for six months of dry (1963,-64) and above normal year (1974-74) hydrology for the "no action" and "preferred alternative" cases at six south Delta locations. The six locations include Old River one mile east and west of the discharge site, the CVP intake channel, present Clifton Court inlet, and Old River at the Tracy Road bridge and at Victoria Canal.

The computed average and maximum percentage component of wastewater origin are listed in Tables 4 and 7 respectively. When the tide gates are not operating, the largest component of reclaimed wastewater travels west of the discharge site due the predominating westerly flow in Old River. The reverse condition is computed for the three months that the tide gates are operating (preferred alternative, February - April, 1964). These results indicate that the waters of Old River downstream of the discharge (west without tide gates and east with tide gates) will be composed of up to approximately 7% reclaimed wastewater. This relatively high percentage of reclaimed wastewater in Old River down stream of the discharge underscores the need for a high and reliable degree of treatment before discharging to Old River.

The average percentage component of reclaimed wastewater at the CVP and SWP export locations is less than approximately 0.65 and 0.05 respectively. The 0.05% for the SWP represents the maximum export concentration since most of the export water would be taken from the Delta well north of the present intake under enlarged Clifton Court Forebay conditions.

The remaining tables show the estimated concentration increments for suspended solids, 5 day BOD, TDS and total nitrogen. These estimates are based on assumed reclaimed wastewater concentrations increment above the background Old River quality of 10, 10, 150 and 22 mg/l for suspended solids, 5 day BOD, TDS and total nitrogen respectively and are based on the developer's estimates (11). The concentration increments were computed from the dilution ratios based on the conservative tracer and therefore, do not include the effects of decay or settling. The TDS assumes an Old River TDS concentration equal to that of Clifton Court. The Old River TDS level is usually greater than that of Clifton Court therefore, the increments listed on tables 5 and 9 are probably over estimated.

None of the estimated increments should create a water quality problem in the southern Delta. The elevated total nitrogen would not be of concern since the potential for nuisance algal blooms or aquatic plant growth is limited by low light transparencies and cold temperatures during the winter discharge period. However, the elevated total nitrogen level in the CVP export could result in slightly higher concentrations in San Luis Reservoir and may contribute to phytoplankton growth during the summer if phytoplankton production is limited by nitrogen. None of the estimated concentration increments would contribute to water quality problems in the SWP.

References

- (1) State of California, Department of Water Resources, "California Water: Looking to the Future", Bulletin 160-87, November 1987
- (2) California Department of Water Resources and United States Bureau of Reclamation, "Draft EIR/EIS, South Delta Water Management Program, Phase I of Water Banking Program", June, 1990
- (3) Smith, Donald J., "Users Guide for the Stockton Ship Channel Project Link-Node Hydrodynamic Model", Resource Management Associates Inc., March 1986
- (4) King, Ian P., "Finite Element Model for Two Dimensional Depth Averaged Flow, RMA-2V, Version 3.3", Resource Management Associates, February, 1986.
- (5) King, Ian P., "A Two Dimensional Finite Element Quality Model", Resource Management Associates, February, 1986.
- (6) Personal communication with Mr. Del Hanson of Del's Marina, April 8, 1991.
- (7) Century West Engineering and R. W. Siegfried & Assoc., "Moutian House New Community, Proposed Urban Area, 2010 General Plan, Drainage and Flood Protection", January 22, 1991
- (8) Personal communication with Mr. Jeff Harris, Sacramento District of the Corps of Engineers, April 3, 1991
- (9) State of California, Department of Water Resources, "Sacramento - San Joaquin Delta Atlas", August 1987
- (10) Personal communication with Mr. Tom Rosten, Engineer for Maintenance District 773, April 3, 1991
- (11) Century West Engineering and R. W. Siegfried & Assoc., "Moutian House New Community, Proposed Urban Area, 2010 General Plan, Wastewater Collection Treatment and Disposal", January 22, 1991

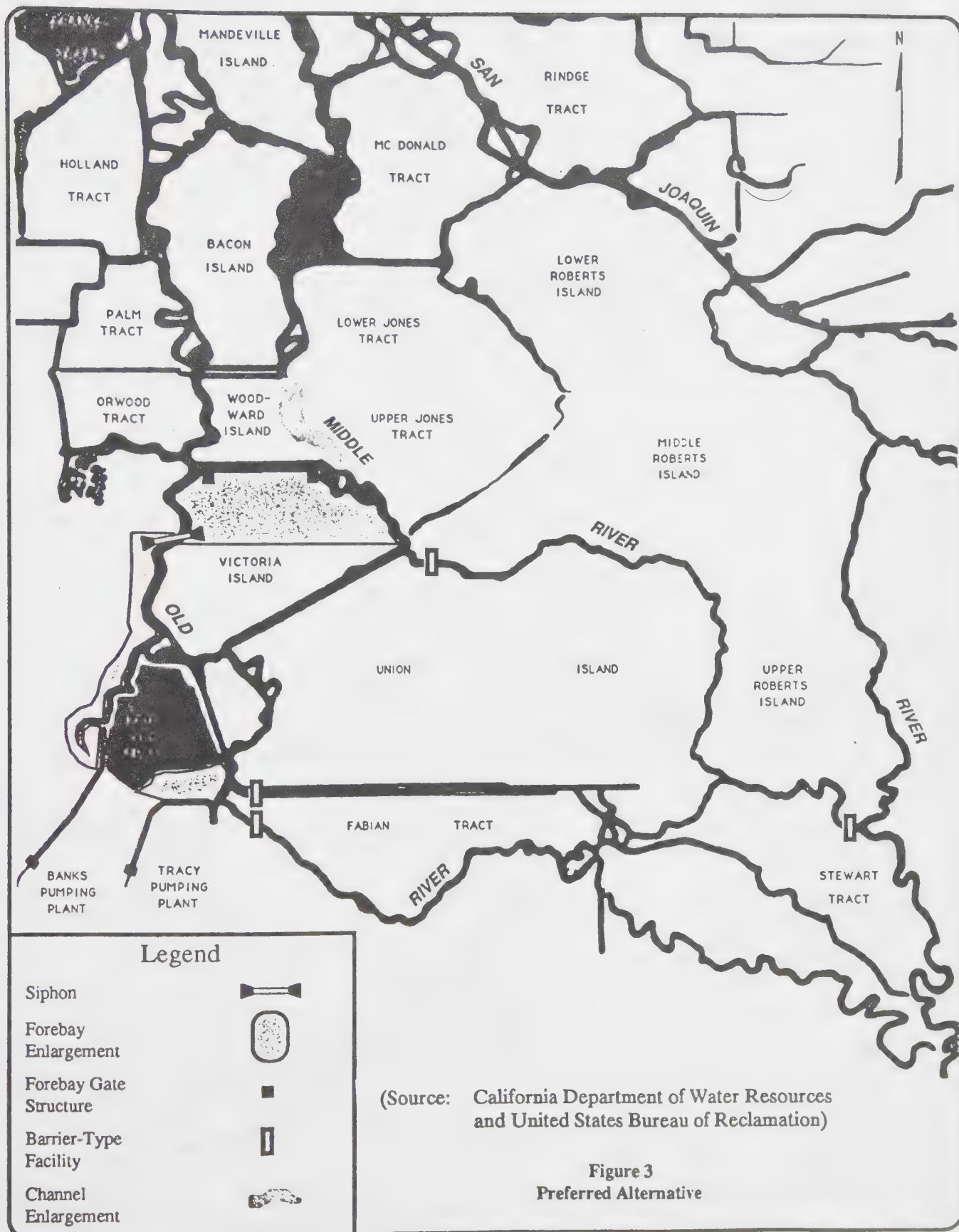


Figure 1 Proposed Southern Delta Modifications

DWR/RMA DELTA MODEL GRID

JANUARY 1988

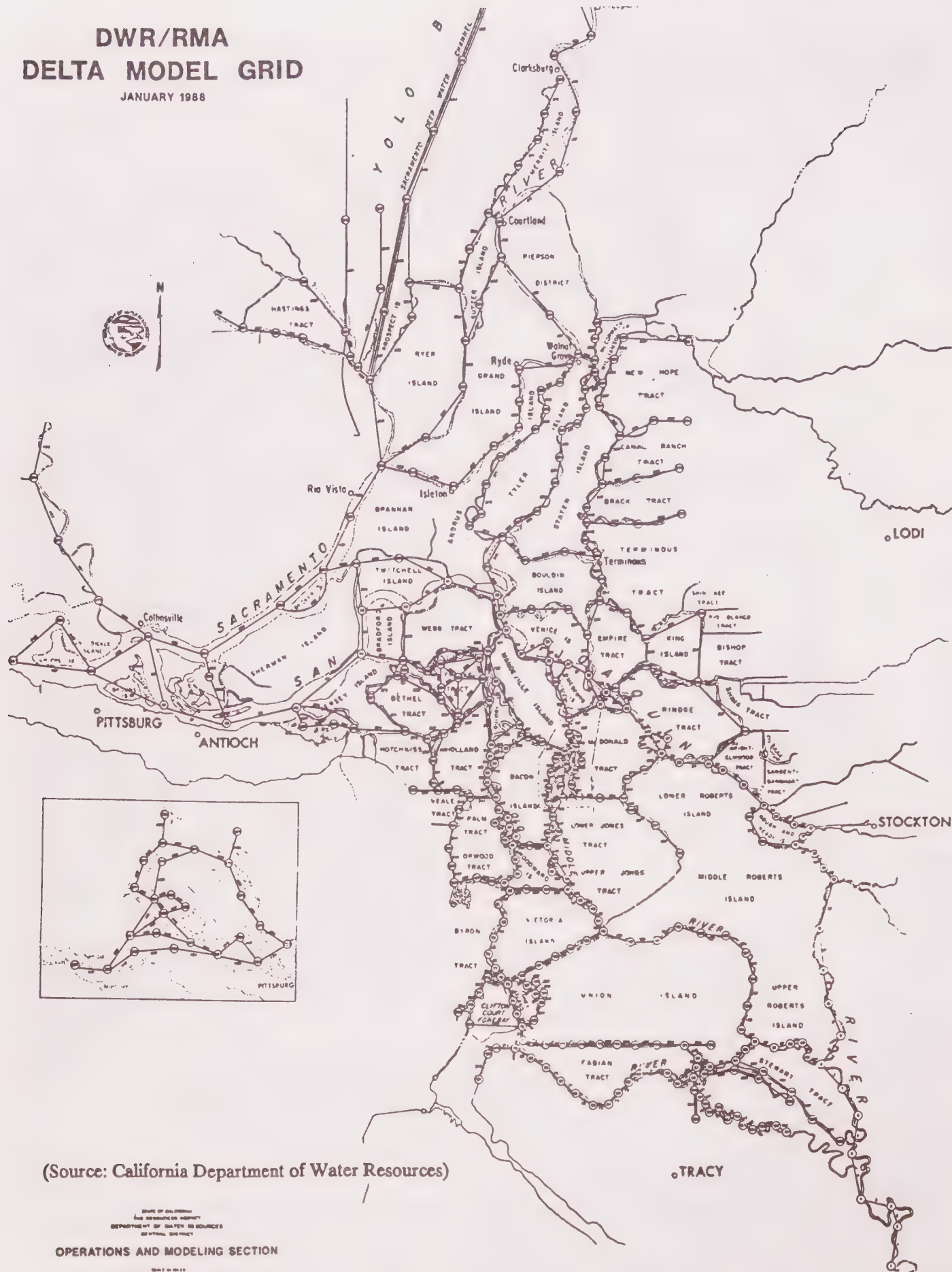


Figure 2 Line-Node Model Representation of the Sacramento San Joaquin River Delta

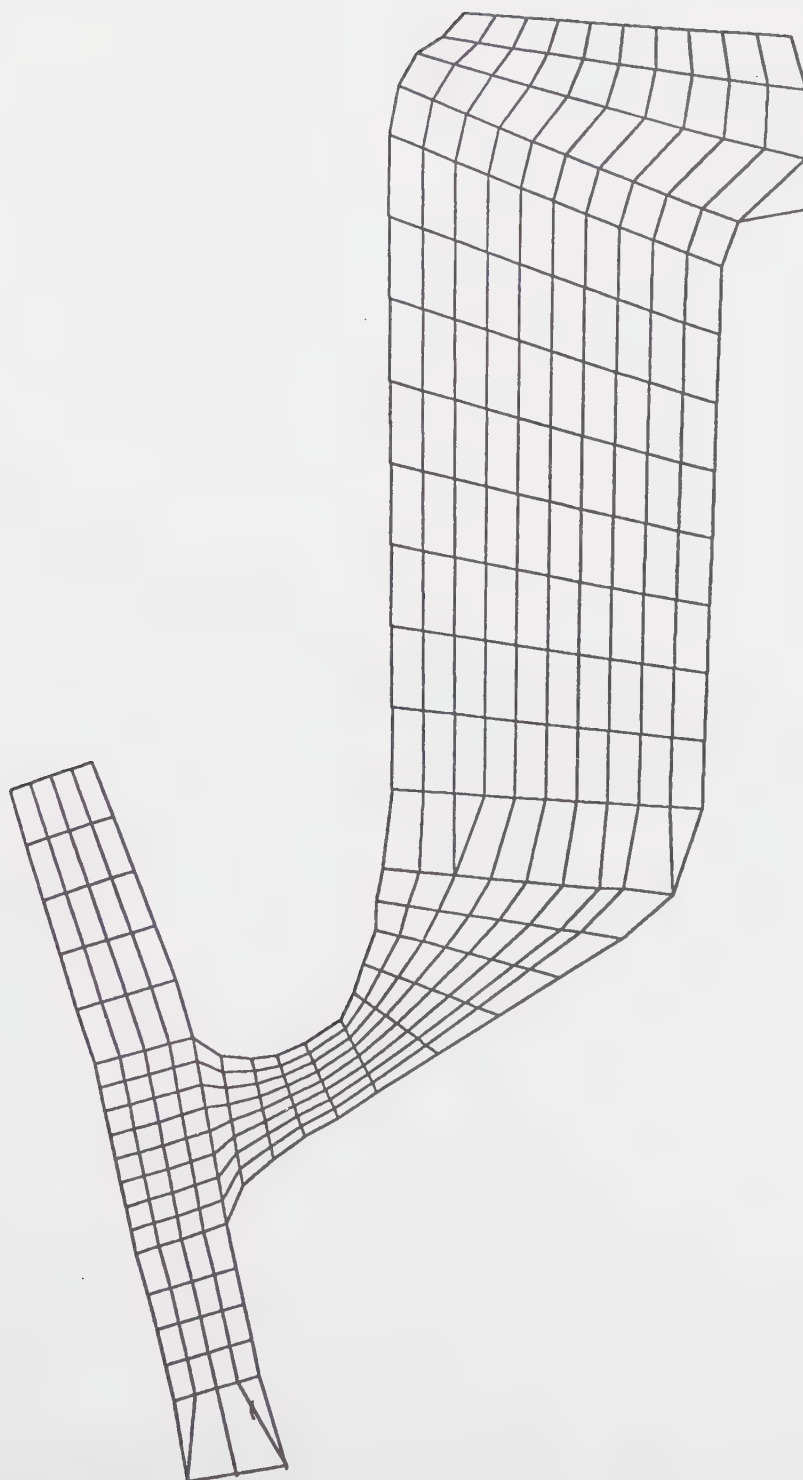
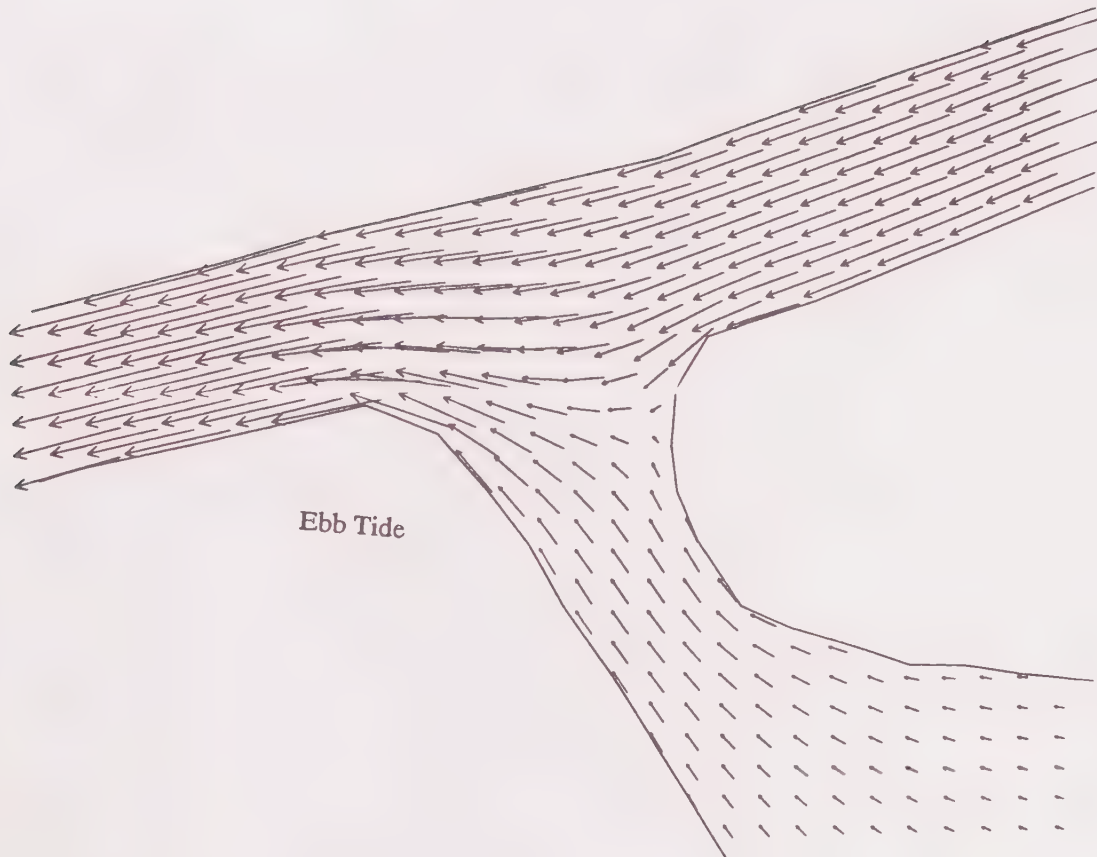
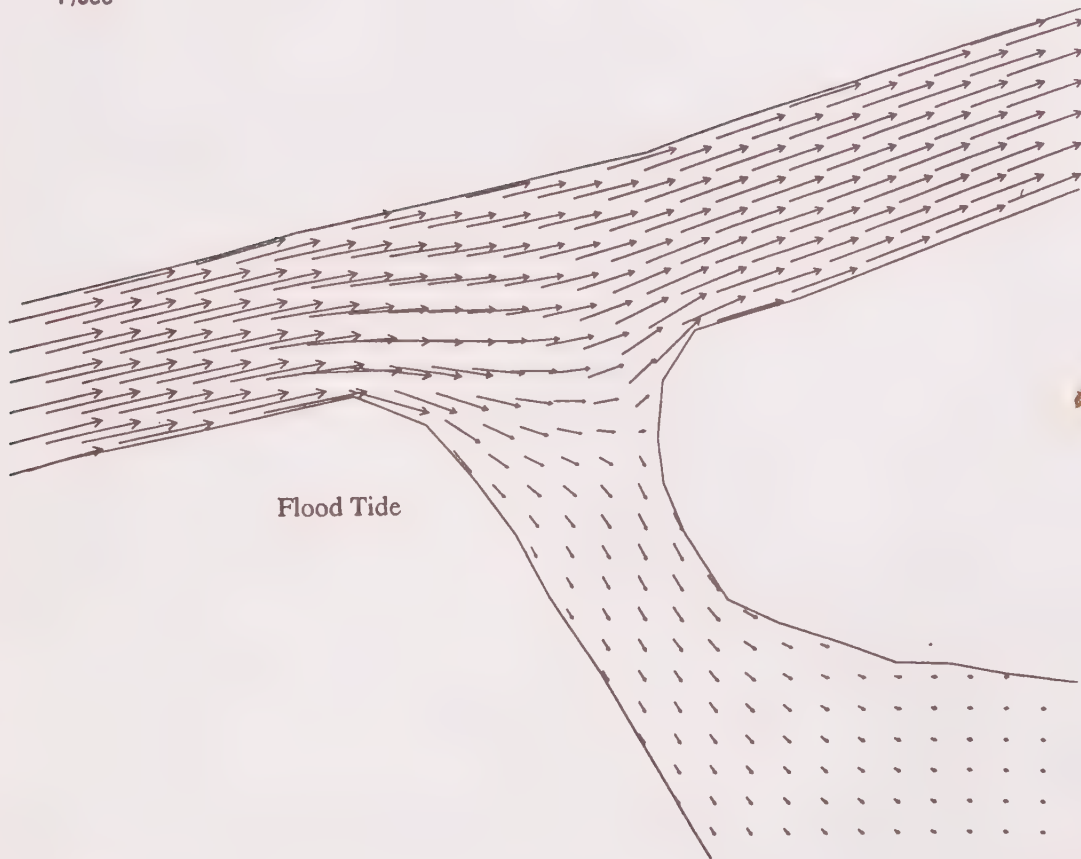


Figure 3 Finite Element Representation of the Proposed Mt. House Marina



Ebb Tide

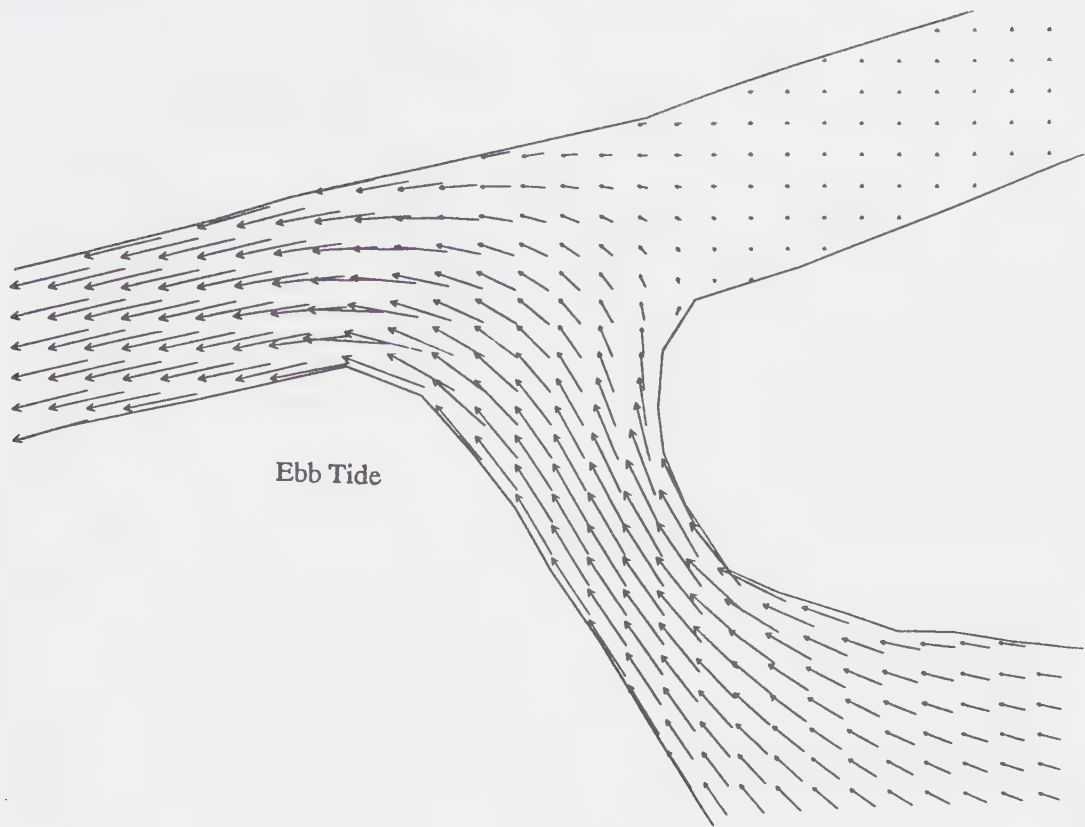
1'/sec



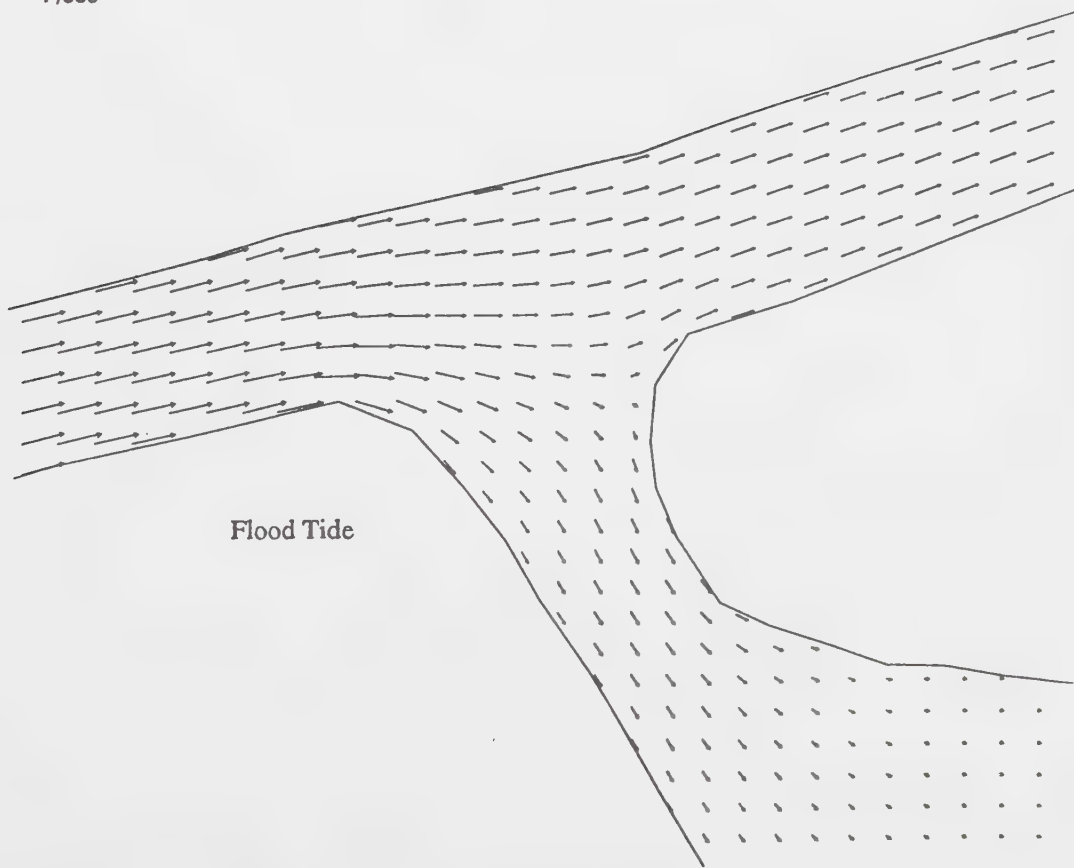
Flood Tide

1'/sec

Figure 4 Typical Computed Ebb and Flood Velocities at the Entrance to the Proposed Mt. House Marina Without the Proposed Old River Tide Gate



1'/sec



1'/sec

Figure 5 Typical Computed Ebb and Flood Velocities at the Entrance to the Proposed Mt. House Marina With the Proposed Old River Tide Gate

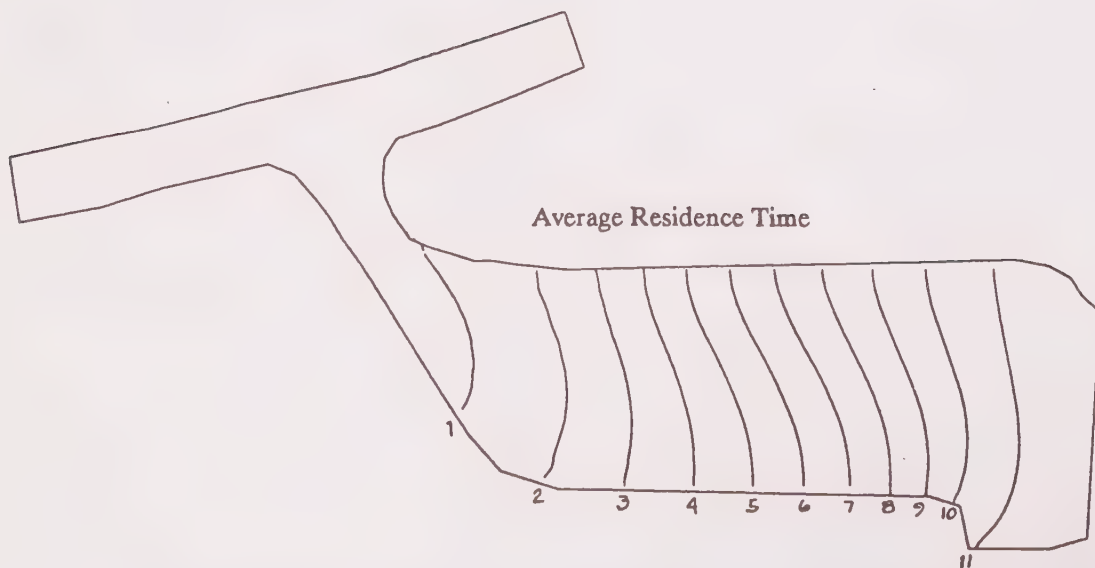
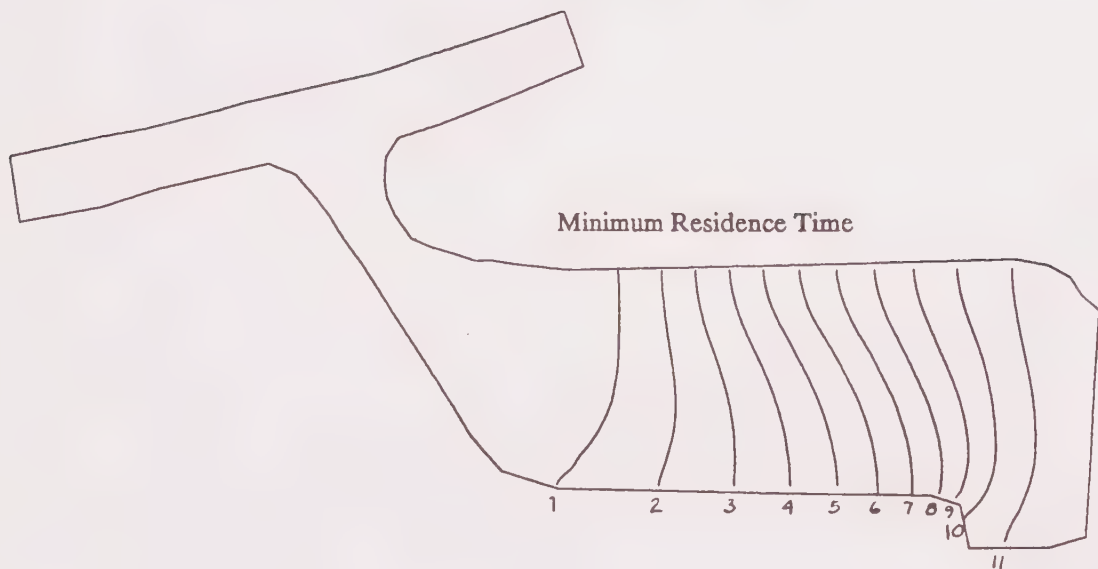
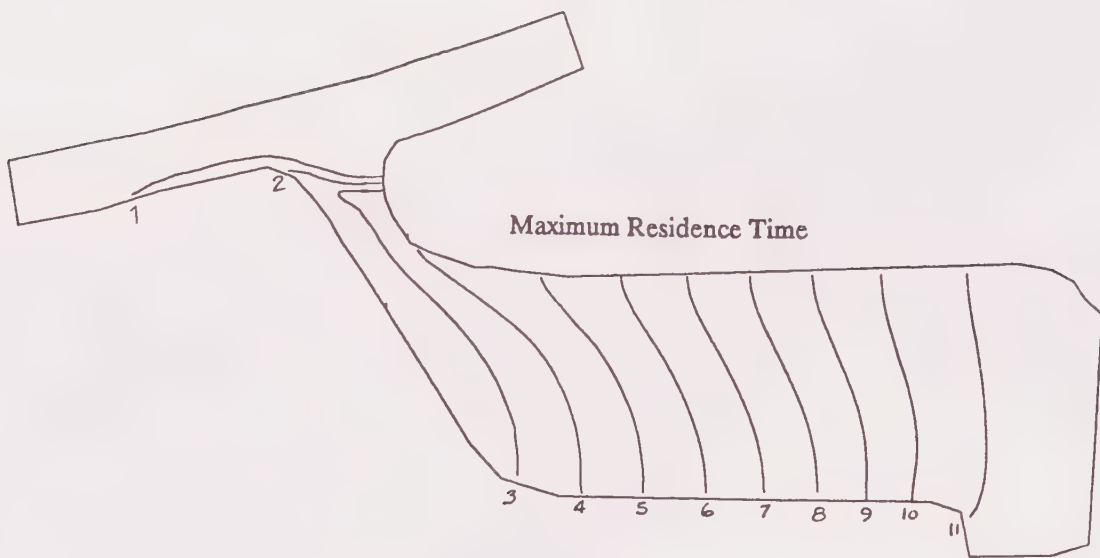


Figure 6 Computed Maximum, Minimum and Average Residence Time Contours Within the Proposed Mt. House Marina Without the Proposed Old River Tide Gate

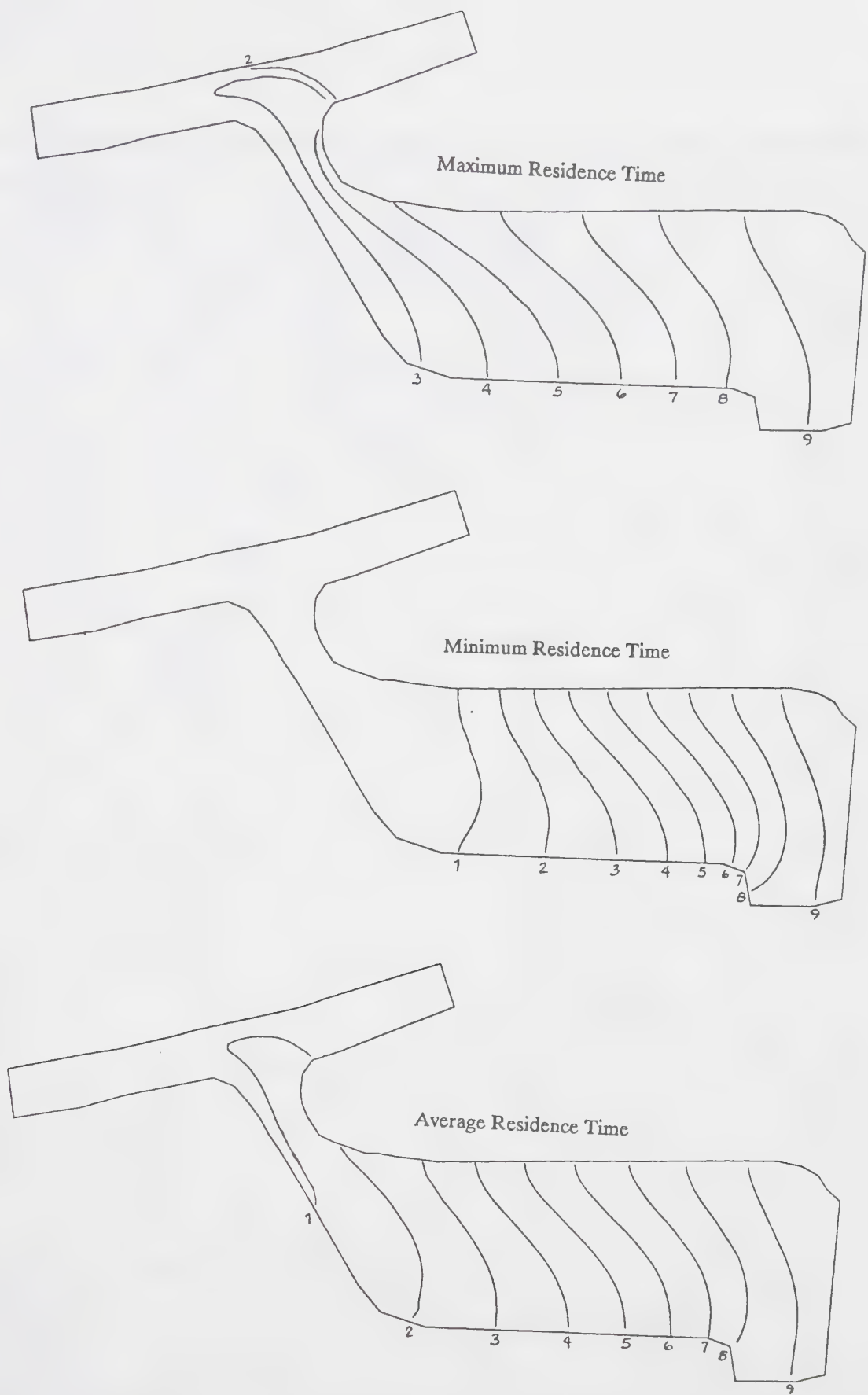


Figure 7 Computed Maximum, Minimum and Average Residence Time Contours Within the Proposed Mt. House Marina With the Proposed Old River Tide Gate

[illegible]

Table 1

Computed Maximum Flow and Velocity in Selected Channels
 With and Without the Proposed Marina,
 With and Without the Proposed Old River Barrier

Channel	Without Old River Barrier		With Old River Barrier	
	No Marina	With Marina	No Marina	With Marina
<u>Flow (cfs)</u>				
Old River West of Marina	2,540	3,131	1,327	2,171
Old River East of Marina	2,048	1,947	1,213	1,217
Old River North of Grantline Canal	13,024	13,220	8,266	8,556
Old River at Tracy Road	513	488	611	616
Old River North of Victoria Canal	12,473	12,578	8,840	9,048
<u>Velocity (ft./sec)</u>				
Old River West of Marina	1.16	1.42	0.58	1.05
Old River East of Marina	1.32	1.25	0.67	0.68
Old River North of Grantline Canal	2.26	2.30	1.43	1.44
Old River at Tracy Road	0.37	0.35	0.40	0.40
Old River North of Victoria Canal	1.87	1.88	1.55	1.58

Table 2

Computed Average Component of Mt. House Origin
Stormwater in the Exports and at
Selected Locations Within the Southern Delta
During the Winter and Early Spring

Location	Nov (%)	Dec (%)	Jan (%)	Feb (%)	Mar (%)
CVP Intake	2.4	2.3	2.3	2.1	2.1
SWP Intake	0.2	0.2	0.2	0.3	0.2
Old River at Victoria Canal	0	0	0	0.1	0
Old River Above the CVP Intake	16.0	15.1	15.8	10.1	13.0
Old River at Tracy Road	0.1	0.1	0.1	0.1	0.1

Table 3

Average Computed Component Of Reclaimed Wastewater
At Selected Locations In The Southern Delta

	Old River 1 Mile West Of Disch.	Old River 1 mile East Of Disch.	CVP Intake Channel	Present SWP Intake	Old River At Tracy Road	Old River At Victoria Canal
November 1963						
No Action	5.22	1.54	0.61	0.04	0.04	0.00
Preferred Alt.	4.79	1.47	0.54	0.05	0.02	0.00
December 1964						
No Action	5.15	1.15	0.56	0.05	0.03	0.00
Preferred Alt.	4.63	1.19	0.50	0.04	0.02	0.00
January 1964						
No Action	5.42	1.31	0.65	0.04	0.03	0.00
Preferred Alt.	5.11	1.24	0.57	0.04	0.03	0.00
February 1964						
No Action	5.85	1.40	0.60	0.03	0.03	0.00
Preferred Alt.	0.96	6.38	0.58	0.09	6.37	0.00
March 1964						
No Action	6.16	1.62	0.54	0.02	0.02	0.00
Preferred Alt.	1.04	6.86	0.45	0.08	6.65	0.00
April 1964						
No Action	5.83	1.78	0.42	0.02	0.05	0.00
Preferred Alt.	2.00	6.51	0.33	0.04	6.03	0.00
November 1974						
No Action	4.51	1.27	0.62	0.04	0.05	0.00
Preferred Alt.	4.26	1.22	0.53	0.05	0.04	0.01
December 1975						
No Action	4.61	1.35	0.62	0.04	0.04	0.00
Preferred Alt.	4.11	1.13	0.51	0.05	0.02	0.01
January 1975						
No Action	5.32	1.59	0.58	0.04	0.03	0.00
Preferred Alt.	4.61	1.18	0.51	0.04	0.02	0.00
February 1975						
No Action	2.74	0.64	0.50	0.05	0.01	0.01
Preferred Alt.	2.51	0.49	0.48	0.08	0.02	0.03
March 1975						
No Action	3.90	1.01	0.52	0.04	0.03	0.00
Preferred Alt.	3.52	0.93	0.49	0.05	0.03	0.01
April 1975						
No Action	5.08	1.57	0.52	0.03	0.04	0.00
Preferred Alt.	4.52	1.11	0.46	0.04	0.02	0.00

Table 4

Estimated Average Increment In Suspended Solids And
Five Day BOD At Selected Locations In The Southern Delta
Due To Reclaimed Wastewater Discharge

	Old River 1 Mile West Of Disch.	Old River 1 mile East Of Disch.	CVP Intake Channel	Present SWP Intake	Old River At Tracy Road	Old River At Victoria Canal
November 1963						
No Action	0.522	0.154	0.061	0.004	0.004	0.000
Preferred Alt.	0.479	0.147	0.054	0.005	0.002	0.000
December 1964						
No Action	0.515	0.115	0.057	0.005	0.003	0.000
Preferred Alt.	0.463	0.119	0.050	0.004	0.002	0.000
January 1964						
No Action	0.542	0.131	0.065	0.004	0.003	0.000
Preferred Alt.	0.511	0.124	0.057	0.004	0.003	0.000
February 1964						
No Action	0.585	0.140	0.060	0.003	0.003	0.000
Preferred Alt.	0.096	0.638	0.058	0.009	0.637	0.000
March 1964						
No Action	0.616	0.162	0.054	0.002	0.002	0.000
Preferred Alt.	0.104	0.686	0.045	0.008	0.665	0.000
April 1964						
No Action	0.583	0.178	0.042	0.002	0.005	0.000
Preferred Alt.	0.200	0.651	0.033	0.003	0.603	0.000
November 1974						
No Action	0.451	0.127	0.062	0.004	0.005	0.000
Preferred Alt.	0.426	0.122	0.053	0.005	0.004	0.001
December 1975						
No Action	0.461	0.135	0.062	0.004	0.004	0.000
Preferred Alt.	0.411	0.113	0.051	0.005	0.002	0.001
January 1975						
No Action	0.532	0.159	0.058	0.004	0.003	0.000
Preferred Alt.	0.461	0.118	0.051	0.004	0.002	0.000
February 1975						
No Action	0.274	0.064	0.050	0.005	0.001	0.001
Preferred Alt.	0.251	0.049	0.048	0.008	0.002	0.003
March 1975						
No Action	0.390	0.101	0.052	0.004	0.003	0.000
Preferred Alt.	0.352	0.093	0.049	0.005	0.003	0.001
April 1975						
No Action	0.508	0.157	0.052	0.003	0.004	0.000
Preferred Alt.	0.452	0.111	0.046	0.004	0.002	0.000

Table 5
Estimated Average Increment In TDS
At Selected Locations In the Southern Delta
Due To Reclaimed Wastewater Discharge

	Old River 1 Mile West Of Disch.	Old River 1 mile East Of Disch.	CVP Intake Channel	Present SWP Intake	Old River At Tracy Road	Old River At Victoria Canal
November 1963						
No Action	7.833	2.307	0.912	0.061	0.063	0.000
Preferred Alt.	7.188	2.204	0.807	0.070	0.029	0.007
December 1964						
No Action	7.724	1.720	0.848	0.073	0.038	0.005
Preferred Alt.	6.948	1.782	0.750	0.066	0.033	0.006
January 1964						
No Action	8.128	1.961	0.969	0.057	0.049	0.000
Preferred Alt.	7.668	1.855	0.852	0.063	0.038	0.007
February 1964						
No Action	8.779	2.095	0.900	0.047	0.045	0.000
Preferred Alt.	1.443	9.570	0.867	0.137	9.548	0.000
March 1964						
No Action	9.243	2.429	0.809	0.032	0.032	0.000
Preferred Alt.	1.563	10.286	0.672	0.113	9.975	0.002
April 1964						
No Action	8.742	2.667	0.629	0.030	0.074	0.000
Preferred Alt.	3.002	9.766	0.500	0.052	9.041	0.002
November 1974						
No Action	6.763	1.899	0.925	0.057	0.080	0.002
Preferred Alt.	6.387	1.823	0.792	0.076	0.058	0.010
December 1975						
No Action	6.915	2.028	0.927	0.060	0.066	0.002
Preferred Alt.	6.171	1.692	0.762	0.082	0.033	0.012
January 1975						
No Action	7.984	2.379	0.864	0.060	0.047	0.003
Preferred Alt.	6.915	1.770	0.759	0.066	0.030	0.006
February 1975						
No Action	4.104	0.955	0.753	0.078	0.022	0.009
Preferred Alt.	3.760	0.738	0.725	0.114	0.037	0.041
March 1975						
No Action	5.847	1.522	0.785	0.057	0.047	0.006
Preferred Alt.	5.280	1.393	0.728	0.069	0.050	0.012
April 1975						
No Action	7.617	2.360	0.780	0.048	0.055	0.002
Preferred Alt.	6.779	1.658	0.687	0.054	0.033	0.003

Table 6
Estimated Average Increment In Total Nitrogen
At Selected Locations In the Southern Delta
Due To Reclaimed Wastewater Discharge

	Old River 1 Mile West Of Disch.	Old River 1 mile East Of Disch.	CVP Intake Channel	Present SWP Intake	Old River At Tracy Road	Old River At Victoria Canal
November 1963						
No Action	1.149	0.338	0.134	0.009	0.009	0.000
Preferred Alt.	1.054	0.323	0.118	0.010	0.004	0.001
December 1964						
No Action	1.133	0.252	0.124	0.011	0.006	0.001
Preferred Alt.	1.019	0.261	0.110	0.010	0.005	0.001
January 1964						
No Action	1.192	0.288	0.142	0.008	0.007	0.000
Preferred Alt.	1.125	0.272	0.125	0.009	0.006	0.001
February 1964						
No Action	1.288	0.307	0.132	0.007	0.007	0.000
Preferred Alt.	0.212	1.404	0.127	0.020	1.400	0.000
March 1964						
No Action	1.356	0.356	0.119	0.005	0.005	0.000
Preferred Alt.	0.229	1.509	0.099	0.016	1.463	0.000
April 1964						
No Action	1.282	0.391	0.092	0.004	0.011	0.000
Preferred Alt.	0.440	1.432	0.073	0.008	1.326	0.000
November 1974						
No Action	0.992	0.279	0.136	0.008	0.012	0.000
Preferred Alt.	0.937	0.267	0.116	0.011	0.008	0.002
December 1975						
No Action	1.014	0.297	0.136	0.009	0.010	0.000
Preferred Alt.	0.905	0.248	0.112	0.012	0.005	0.002
January 1975						
No Action	1.171	0.349	0.127	0.009	0.007	0.000
Preferred Alt.	1.014	0.260	0.111	0.010	0.004	0.001
February 1975						
No Action	0.602	0.140	0.110	0.011	0.003	0.001
Preferred Alt.	0.552	0.108	0.106	0.017	0.005	0.006
March 1975						
No Action	0.858	0.223	0.115	0.008	0.007	0.001
Preferred Alt.	0.774	0.204	0.107	0.010	0.007	0.002
April 1975						
No Action	1.117	0.346	0.114	0.007	0.008	0.000
Preferred Alt.	0.994	0.243	0.101	0.008	0.005	0.000

Table 7

Maximum Computed Component Of Reclaimed Wastewater
At Selected Locations In The Southern Delta

	Old River 1 Mile West Of Disch.	Old River 1 mile East Of Disch.	CVP Intake Channel	Present SWP Intake	Old River At Tracy Road	Old River At Victoria Canal
November 1963						
No Action	6.18	3.94	1.48	0.16	0.10	0.00
Preferred Alt.	5.59	3.42	1.47	0.17	0.05	0.03
December 1964						
No Action	6.01	2.72	1.52	0.19	0.07	0.02
Preferred Alt.	5.29	2.37	1.50	0.18	0.07	0.03
January 1964						
No Action	6.45	3.23	1.51	0.14	0.06	0.00
Preferred Alt.	5.87	2.74	1.56	0.17	0.06	0.03
February 1964						
No Action	6.82	3.61	1.44	0.13	0.09	0.00
Preferred Alt.	3.54	6.53	1.13	0.25	6.41	0.00
March 1964						
No Action	7.06	3.91	1.35	0.10	0.05	0.00
Preferred Alt.	3.30	7.11	0.85	0.19	6.74	0.01
April 1964						
No Action	6.76	3.72	1.21	0.10	0.14	0.00
Preferred Alt.	3.23	6.82	0.60	0.15	6.20	0.01
November 1974						
No Action	5.58	3.30	1.46	0.17	0.19	0.01
Preferred Alt.	5.09	2.87	1.49	0.18	0.14	0.03
December 1975						
No Action	5.67	3.46	1.45	0.17	0.10	0.01
Preferred Alt.	4.85	2.66	1.45	0.20	0.07	0.03
January 1975						
No Action	6.16	3.65	1.56	0.17	0.07	0.01
Preferred Alt.	5.29	2.39	1.46	0.18	0.06	0.03
February 1975						
No Action	3.46	1.40	1.27	0.20	0.05	0.05
Preferred Alt.	3.09	1.08	1.28	0.20	0.08	0.09
March 1975						
No Action	4.66	2.48	1.38	0.15	0.09	0.03
Preferred Alt.	4.18	2.20	1.31	0.15	0.09	0.04
April 1975						
No Action	5.94	3.66	1.37	0.14	0.07	0.01
Preferred Alt.	5.16	2.28	1.32	0.15	0.06	0.02

Table 8

Estimated Maximum Increment In Suspended Solids And
Five Day BOD At Selected Locations In The Southern Delta
Due To Reclaimed Wastewater Discharge

	Old River 1 Mile West Of Disch.	Old River 1 mile East Of Disch.	CVP Intake Channel	Present SWP Intake	Old River At Tracy Road	Old River At Victoria Canal
November 1963						
No Action	0.618	0.395	0.148	0.016	0.010	0.000
Preferred Alt.	0.559	0.342	0.147	0.017	0.005	0.003
December 1964						
No Action	0.601	0.272	0.152	0.019	0.007	0.002
Preferred Alt.	0.529	0.237	0.150	0.018	0.007	0.003
January 1964						
No Action	0.645	0.323	0.151	0.014	0.007	0.000
Preferred Alt.	0.587	0.274	0.156	0.017	0.006	0.003
February 1964						
No Action	0.682	0.361	0.144	0.013	0.010	0.000
Preferred Alt.	0.354	0.653	0.113	0.025	0.641	0.000
March 1964						
No Action	0.706	0.391	0.135	0.010	0.005	0.000
Preferred Alt.	0.330	0.711	0.085	0.019	0.674	0.001
April 1964						
No Action	0.676	0.372	0.121	0.010	0.014	0.000
Preferred Alt.	0.323	0.682	0.060	0.015	0.620	0.001
November 1974						
No Action	0.558	0.329	0.146	0.017	0.019	0.001
Preferred Alt.	0.509	0.287	0.149	0.018	0.014	0.003
December 1975						
No Action	0.567	0.346	0.145	0.017	0.010	0.001
Preferred Alt.	0.485	0.266	0.145	0.020	0.007	0.003
January 1975						
No Action	0.616	0.366	0.156	0.017	0.007	0.001
Preferred Alt.	0.529	0.239	0.146	0.018	0.006	0.003
February 1975						
No Action	0.346	0.140	0.127	0.020	0.005	0.005
Preferred Alt.	0.309	0.108	0.128	0.020	0.008	0.009
March 1975						
No Action	0.466	0.248	0.138	0.015	0.010	0.003
Preferred Alt.	0.418	0.220	0.131	0.015	0.010	0.004
April 1975						
No Action	0.594	0.366	0.137	0.014	0.007	0.001
Preferred Alt.	0.516	0.228	0.132	0.015	0.006	0.002

Table 9
Estimated Maximum Increment In TDS
At Selected Locations In the Southern Delta
Due To Reclaimed Wastewater Discharge

	Old River 1 Mile West Of Disch.	Old River 1 mile East Of Disch.	CVP Intake Channel	Present SWP Intake	Old River At Tracy Road	Old River At Victoria Canal
November 1963						
No Action	9.270	5.918	2.220	0.240	0.157	0.000
Preferred Alt.	8.385	5.137	2.205	0.255	0.068	0.045
December 1964						
No Action	9.015	4.088	2.280	0.285	0.105	0.030
Preferred Alt.	7.935	3.555	2.250	0.270	0.105	0.045
January 1964						
No Action	9.675	4.845	2.265	0.210	0.098	0.000
Preferred Alt.	8.805	4.117	2.340	0.255	0.090	0.045
February 1964						
No Action	10.230	5.415	2.160	0.195	0.142	0.000
Preferred Alt.	5.310	9.788	1.695	0.375	9.622	0.000
March 1964						
No Action	10.590	5.872	2.025	0.150	0.082	0.000
Preferred Alt.	4.950	10.672	1.275	0.285	10.118	0.015
April 1964						
No Action	10.140	5.580	1.815	0.150	0.203	0.000
Preferred Alt.	4.845	10.230	0.900	0.225	9.293	0.015
November 1974						
No Action	8.370	4.942	2.190	0.255	0.278	0.015
Preferred Alt.	7.635	4.305	2.235	0.270	0.210	0.045
December 1975						
No Action	8.505	5.190	2.175	0.255	0.150	0.015
Preferred Alt.	7.275	3.990	2.175	0.300	0.105	0.045
January 1975						
No Action	9.240	5.483	2.340	0.255	0.105	0.015
Preferred Alt.	7.935	3.585	2.190	0.270	0.090	0.045
February 1975						
No Action	5.190	2.107	1.905	0.300	0.068	0.075
Preferred Alt.	4.635	1.613	1.920	0.300	0.120	0.135
March 1975						
No Action	6.990	3.727	2.070	0.225	0.142	0.045
Preferred Alt.	6.270	3.307	1.965	0.225	0.142	0.060
April 1975						
No Action	8.910	5.490	2.055	0.210	0.105	0.015
Preferred Alt.	7.740	3.420	1.980	0.225	0.090	0.030

Table 10
Estimated Maximum Increment In Total Nitrogen
At Selected Locations In the Southern Delta
Due To Reclaimed Wastewater Discharge

	Old River 1 Mile West Of Disch.	Old River 1 mile East Of Disch.	CVP Intake Channel	Present SWP Intake	Old River At Tracy Road	Old River At Victoria Canal
November 1963						
No Action	1.360	0.868	0.326	0.035	0.023	0.000
Preferred Alt.	1.230	0.753	0.323	0.037	0.010	0.007
December 1964						
No Action	1.322	0.600	0.334	0.042	0.015	0.004
Preferred Alt.	1.164	0.521	0.330	0.040	0.015	0.007
January 1964						
No Action	1.419	0.711	0.332	0.031	0.014	0.000
Preferred Alt.	1.291	0.604	0.343	0.037	0.013	0.007
February 1964						
No Action	1.500	0.794	0.317	0.029	0.021	0.000
Preferred Alt.	0.779	1.436	0.249	0.055	1.411	0.000
March 1964						
No Action	1.553	0.861	0.297	0.022	0.012	0.000
Preferred Alt.	0.726	1.565	0.187	0.042	1.484	0.002
April 1964						
No Action	1.487	0.818	0.266	0.022	0.030	0.000
Preferred Alt.	0.711	1.500	0.132	0.033	1.363	0.002
November 1974						
No Action	1.228	0.725	0.321	0.037	0.041	0.002
Preferred Alt.	1.120	0.631	0.328	0.040	0.031	0.007
December 1975						
No Action	1.247	0.761	0.319	0.037	0.022	0.002
Preferred Alt.	1.067	0.585	0.319	0.044	0.015	0.007
January 1975						
No Action	1.355	0.804	0.343	0.037	0.015	0.002
Preferred Alt.	1.164	0.526	0.321	0.040	0.013	0.007
February 1975						
No Action	0.761	0.309	0.279	0.044	0.010	0.011
Preferred Alt.	0.680	0.237	0.282	0.044	0.018	0.020
March 1975						
No Action	1.025	0.547	0.304	0.033	0.021	0.007
Preferred Alt.	0.920	0.485	0.288	0.033	0.021	0.009
April 1975						
No Action	1.307	0.805	0.301	0.031	0.015	0.002
Preferred Alt.	1.135	0.502	0.290	0.033	0.013	0.004

APPENDIX 10.13

JOBS/HOUSING MODEL TABLES

DESCRIPTION OF JOBS/HOUSING AFFORDABILITY MODEL

The jobs/housing affordability model developed by Economic and Planning Systems, Inc., examines whether housing costs within a study area are affordable to persons employed within that study area. In general, the model estimates: 1) number of workers employed within specific occupations, as determined by land use categories; 2) the number of households that these workers would constitute; 3) the median incomes of these households; and, 4) the dollar amount that these households are able to pay for housing. Relating ability-to-pay with potential housing costs provides an indication of whether the housing within a specified area would be affordable to these workers.

The major methodological steps and assumptions are described below. The tables presented in this appendix follow and build upon each other in a sequential manner. The numerical results of the model are the product of numerous calculations and assumptions that ten to multiply errors that exist in the database, and should accordingly be viewed as representing general magnitudes rather than exact estimates.

- **Estimate employment by land use category.** Tables 1 through 3 transform the Mountain House New Town land use plan into estimates of employment. Because General Plan categories are relatively broad with regard to the types of uses they include (Table 1), these categories are disaggregated into specific land uses for which employment levels per acre can be more precisely determined (Table 2). Multiplying these unitized employment levels by the land use acreages provides estimates of total employment by land use (Table 3).
- **Transform employment by land use into employment by occupation.** Tables 4 through 6 transform employment by land use into employment by occupation, which is a necessary step in order to utilize census data. First, the types of industry within each employment category are estimated (Table 4), as are the relative importance of these industries. Next, types of occupations within each industry are disaggregated (Table 5). Multiplying the employment estimates from Table 4 by these occupational percentages provides estimates of New Town employment by occupation.
- **Transform employment into households and determine their income levels.** Several steps have been collapsed in Table 7, which presents cross-tabulations of households by occupation and income level, broken down by industry. These cross-tabulations are based upon 1980 census data, as is the transformation of workers into households. Table 8 aggregates the household estimates from Table 7 into totals by income and occupation.
- **Estimate housing need by tenure and price.** Tables 9 through 11 estimate the housing need of on-site workers. Table 9 shows housing need by type of tenure (owner-occupied and rental) and income. Table 10 transforms household incomes into affordable purchase prices and rents. The number of households that can afford these prices and rents are shown in Table 11.
- **Determine if the proposed project provides a sufficient amount of housing affordable to the on-site workforce.** Table 12 lists, by price, the supply of housing proposed for the Mountain House New Town. Table 13 compares the number of dwelling units within each price range with the number of households that can afford them. In general, a deficit indicates that the proposed project contains an insufficient number of affordable units within a specific price range. However, deficits in the higher cost categories can often be filled if surpluses exist in the lower price categories. Table 14 summarizes, by income category, estimated deficits and surpluses of affordable housing.

Table 1
Proposed Project
Mountain House Jobs/Housing Study

General Plan Designations	Proposed Project
Single-Family	13,369 UNITS
Multi-Family	2,634 UNITS
Retail Commercial (CC, C/N, G/C)	145 ACRES
Town Center (C/MU)	43 ACRES
Office Commercial (C/O)	60 ACRES
Visitor Commercial (C/FS)	27 ACRES
Light Industry (I/L)	317 ACRES
General Industry (I/G)	110 ACRES

Sources: Trimark Communities, Inc.; Economic and Planning Systems, Inc.

Table 2
Land Use Profile for General Plan Designations
Mountain House Jobs/Housing Study

General Plan Designations	Retail	Office	Service	R & D	Warehouse	Manufacturing	Hotel/Motel	Total
Single-Family	0%	0%	0%	0%	0%	0%	0%	0%
Multi-Family	0%	0%	0%	0%	0%	0%	0%	0%
Retail Comm. (CC, C/N, G/C)	70%	10%	20%	0%	0%	0%	0%	100%
Town Center (C/MU)	30%	20%	30%	0%	0%	0%	20%	100%
Office Commercial (C/O)	10%	80%	10%	0%	0%	0%	0%	100%
Visitor Commercial (C/FS)	30%	0%	0%	0%	0%	0%	70%	100%
Light Industry (I/L)	0%	0%	10%	15%	50%	25%	0%	100%
General Industry (I/G)	0%	0%	10%	15%	45%	30%	0%	100%

Sources: Based on Workplace Studies by Economic and Planning Systems, Inc.

Table 3
Land Use Assumptions
Proposed Project
Mountain House Jobs/Housing Study

Land Use	Employment
Retail	3,552
Office	2,899
Service	2,596
R & D/Lt. Industrial	1,467
Warehouse	4,814
Manufacturing	2,523
Hotel/Motel	892
Total	18,743

Source: Economic and Planning Systems, Inc.

Table 4
Land Use and Industry Matrix
Proposed Project
Mountain House Jobs/Housing Study

Land Use	Industry Mix						
	Manufacturing	TCPU (1)	Wholesale	Retail	FIRE	Service	Public
Retail	0%	0%	0%	95%	5%	0%	0%
Office	0%	0%	0%	0%	35%	55%	10%
Service	0%	10%	10%	10%	0%	70%	0%
R & D	50%	0%	0%	0%	0%	50%	0%
Warehouse	20%	30%	50%	0%	0%	0%	0%
Manufacturing	75%	0%	25%	0%	0%	0%	0%
Hotel/Motel	0%	0%	0%	10%	0%	90%	0%

(1) Transportation, Communication and Public Utilities.

Source: Economic and Planning Systems, Inc.

Table 5
Industry and Occupational Matrix
Mountain House Jobs/Housing Study

Industry	PROFESSIONAL	SALES	CLERICAL	SERVICE	OTHER	TOTAL
AGRICULTURE	4.1%	0.4%	1.9%	0.5%	93.1%	100.0%
CONSTRUCTION	19.5%	0.4%	7.6%	0.7%	71.8%	100.0%
MANUFACTURING	23.3%	3.1%	14.1%	1.4%	58.1%	100.0%
TCPU	19.1%	1.3%	26.0%	3.6%	50.0%	100.0%
WHOLESALE	18.3%	22.6%	30.8%	0.6%	27.7%	100.0%
RETAIL	8.3%	64.0%	16.0%	5.4%	6.3%	100.0%
FIRE	27.5%	24.1%	43.0%	2.5%	2.9%	100.0%
SERVICE	44.1%	0.8%	22.0%	20.5%	12.6%	100.0%
PUBLIC	27.0%	0.1%	35.6%	22.8%	14.5%	100.0%

Sources: Employment Development Department; Economic and Planning Systems, Inc.

Table 6
Employment by Industry and Occupation
Proposed Project
Mountain House Jobs/Housing Study

Industry	PROFESSIONAL	SALES	CLERICAL	SERVICE	OTHER	TOTAL
AGRICULTURE	0	0	0	0	0	0
CONSTRUCTION	0	0	0	0	0	0
MANUFACTURING	836	111	506	50	2,085	3,588
TCPU	325	22	443	61	852	1,704
WHOLESALE	603	745	1,016	20	913	3,297
RETAIL	309	2,383	596	201	235	3,724
FIRE	328	287	513	30	35	1,192
SERVICE	2,182	40	1,089	1,014	623	4,948
PUBLIC	78	0	103	66	42	290
TOTAL	4,662	3,589	4,265	1,443	4,785	18,743

Sources: Employment Development Department; Economic and Planning Systems, Inc.

Table 7
Accumulation of Households Distributed by Household Income
Proposed Project
Mountain House Jobs/Housing Study

Industry and Occupation	\$0 to \$15,999	\$16,000 to \$29,999	\$30,000 to \$49,999	\$50,000 to \$69,999	\$70,000 to \$99,999	\$100,000 Over	TOTAL
AGRICULTURE -----							
PROFESSIONAL	0	0	0	0	0	0	0
SALES	0	0	0	0	0	0	0
CLERICAL	0	0	0	0	0	0	0
SERVICE	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
CONSTRUCTION -----							
PROFESSIONAL	0	0	0	0	0	0	0
SALES	0	0	0	0	0	0	0
CLERICAL	0	0	0	0	0	0	0
SERVICE	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
MANUFACTURING -----							
PROFESSIONAL	47	47	373	210	233	117	1,026
SALES	11	0	11	32	22	11	86
CLERICAL	26	51	116	103	26	0	322
SERVICE	0	27	14	0	0	0	41
OTHER	104	424	904	593	207	9	2,241
TOTAL	187	549	1,417	938	488	137	3,716
TCPU -----							
PROFESSIONAL	31	47	63	94	110	47	393
SALES	0	0	0	16	0	0	16
CLERICAL	0	80	184	103	34	0	401
SERVICE	0	44	0	0	0	0	44
OTHER	88	118	373	235	196	49	1,059
TOTAL	120	290	619	449	341	96	1,914
WHOLESALE -----							
PROFESSIONAL	28	28	141	198	113	85	593
SALES	28	166	277	194	139	28	831
CLERICAL	147	221	147	110	74	0	699
SERVICE	29	0	0	0	0	0	29
OTHER	117	195	390	195	19	0	915

TOTAL	349	610	955	697	345	112	3,067
RETAIL							

PROFESSIONAL	44	53	123	70	26	9	325
SALES	172	309	499	413	206	69	1,668
CLERICAL	49	98	81	33	0	0	261
SERVICE	30	36	18	3	3	3	92
OTHER	12	56	92	24	24	0	208
TOTAL	306	552	813	542	260	81	2,554
FIRE							

PROFESSIONAL	0	26	64	51	90	26	257
SALES	13	54	81	108	40	40	336
CLERICAL	30	69	40	50	10	0	198
SERVICE	0	0	0	22	0	0	22
OTHER	0	0	17	17	0	0	33
TOTAL	43	149	201	247	140	66	846
SERVICE							

PROFESSIONAL	210	280	507	411	332	192	1,932
SALES	10	21	5	0	0	0	37
CLERICAL	99	179	99	20	10	0	407
SERVICE	179	171	125	39	0	8	521
OTHER	98	261	240	76	22	33	730
TOTAL	596	912	976	546	364	233	3,626
PUBLIC							

PROFESSIONAL	9	4	28	35	15	2	94
SALES	0	0	0	0	0	0	0
CLERICAL	5	22	24	5	2	0	58
SERVICE	2	12	29	22	8	0	73
OTHER	1	9	29	15	2	0	56
TOTAL	17	48	110	77	28	2	282

Source: Economic and Planning Systems, Inc.

Table 8
Summary of Employee-Households Distributed by Household Income and Occupation
Proposed Project
Mountain House Jobs/Housing Study

Occupation	\$0 to \$15,999	\$16,000 to \$29,999	\$30,000 to \$49,999	\$50,000 to \$69,999	\$70,000 to \$99,999	\$100,000 Over	TOTAL
PROFESSIONAL	369	485	1,300	1,069	920	477	3,186
SALES	234	551	872	762	407	148	2,051
CLERICAL	356	720	691	423	156	0	1,618
SERVICE	239	291	185	86	11	11	567
OTHER	420	1,063	2,044	1,155	471	91	3,616
TOTAL	1,618	3,109	5,091	3,496	1,964	727	16,005

Source: Economic and Planning Systems, Inc.

Table 9
Housing Tenure by Income Category
Proposed Project
Mountain House Jobs/Housing Study

Income Category	Total Households	Percentage Owners (1)	Percentage Renters (1)	For-Sale Housing Need	Rental Housing Need
\$0 to \$15,999	1,618	5%	95%	81	1,537
\$16,000 to \$29,999	3,109	30%	70%	933	2,176
\$30,000 to \$49,999	5,091	60%	40%	3,055	2,037
\$50,000 to \$69,999	3,496	100%	0%	3,496	0
\$70,000 to \$99,999	1,964	100%	0%	1,964	0
\$100,000 and Over	727	100%	0%	727	0
TOTAL	16,005	64%	36%	10,255	5,750

(1) Estimated by Economic and Planning Systems, Inc.

Source: Economic and Planning Systems, Inc.

Table 10
Housing Affordability Ranges By Tenure
Proposed Project
Mountain House Jobs/Housing Study

1989		
Household Income	Purchase Price (1)	Monthly Rent (2)
\$0 to \$15,999	\$0 to \$54,999	\$0 to \$399
\$16,000 to \$29,999	\$55,000 to \$102,999	\$400 to \$749
\$30,000 to \$49,999	\$103,000 to \$170,999	\$750 to \$1,249
\$50,000 to \$69,999	\$171,000 to \$239,999	\$1,250 to \$1,749
\$70,000 to \$99,999	\$240,000 to \$341,999	\$1,750 to \$2,499
\$100,000 and Over	\$342,000 and over	\$2,500 and up

(1) The purchase price is assumed to be based upon:

Interest Rate: 10.0%
Term of Loan (Years): 30
Percent Down Payment: 10.0%
Income Ratio Requirement: 33.0%

(2) Assumes that 30% of gross monthly income is spent on rent.

Source: Economic and Planning Systems, Inc.

Table 11
 Estimated Housing Need of Employee-Households by Affordability Range
 Proposed Project
 Mountain House Jobs/Housing Study

Affordability Price Range For For-Sale Units	For-sale Housing Need	Affordability Price Range For Rental Units	Rental Housing Need	Total Housing Need
\$0 to \$54,999	81	\$0 to \$399	1,537	1,618
\$55,000 to \$102,999	933	\$400 to \$749	2,176	3,109
\$103,000 to \$170,999	3,055	\$750 to \$1,249	2,037	5,091
\$171,000 to \$239,999	3,496	\$1,250 to \$1,749	0	3,496
\$240,000 to \$341,999	1,964	\$1,750 to \$2,499	0	1,964
\$342,000 and over	727	\$2,500 and up	0	727
TOTAL	10,255		5,750	16,005

Source: Economic and Planning Systems, Inc.

Table 12
Supply of Housing by Price and Tenure
Proposed Project
Mountain House Jobs/Housing Study

Tenure and Price Range	For-Sale Housing	Rental Housing
For-Sale Housing		

\$0 to \$54,999	0	NA
\$55,000 to \$102,999	1,133	NA
\$103,000 to \$170,999	2,177	NA
\$171,000 to \$239,999	12,693	NA
\$240,000 to \$341,999	0	NA
\$342,000 and more	0	NA
Total	16,003	NA
Rental Housing [NOTE: APPLICANT HAS NOT ESTIMATED RENTAL HOUSING SUPPLY]		

\$0 to \$399	NA	NA
\$400 to \$749	NA	NA
\$750 to \$1,249	NA	NA
\$1,250 to \$1,749	NA	NA
\$1,750 to \$2,499	NA	NA
\$2,500 and more	NA	NA
Total	NA	NA

Sources: Trimark Communities, Inc.; Economic and Planning Systems, Inc.

Table 13

Balance Between Housing Need and Price by Affordability Level

Proposed Project

Mountain House Jobs/Housing Study

Tenure and Price Range	Housing Need	Supply	Surplus/(Deficit) of Housing
For-Sale Housing			

\$0 to \$54,999	81	0	(81)
\$55,000 to \$102,999	933	1,133	200
\$103,000 to \$170,999	3,055	2,177	(878)
\$171,000 to \$239,999	3,496	12,693	9,197
\$240,000 to \$341,999	1,964	0	(1,964)
\$342,000 and more	727	0	(727)
Total	10,255	16,003	5,748
Rental Housing			

\$0 to \$399	1,537	0	(1,537)
\$400 to \$749	2,176	0	(2,176)
\$750 to \$1,249	2,037	0	(2,037)
\$1,250 to \$1,749	0	0	0
\$1,750 to \$2,499	0	0	0
\$2,500 and more	0	0	0
Total	5,750	0	(5,750)

Source: Economic and Planning Systems, Inc.

Table 14
 Net Housing Deficit by Income Category
 Proposed Project
 Mountain House Jobs/Housing Study

Annual Income		Housing Need	Housing Supply	Surplus/(Deficit) of Housing
\$0 to \$15,999		1,618	0	(1,618)
\$16,000 to \$29,999		3,109	1,133	(1,976)
\$30,000 to \$49,999		5,091	2,177	(2,914)
\$50,000 to \$69,999		3,496	12,693	9,197
\$70,000 to \$99,999		1,964	0	(1,964)
\$100,000 and Over		727	0	(727)
Total		16,005	16,003	(2)

Source: Economic and Planning Systems, Inc.

APPENDIX 10.14

REGULATORY INFORMATION REGARDING HAZARDOUS MATERIALS

APPENDIX 10.14

REGULATORY AGENCY ROLES IN HAZARDOUS MATERIALS AND WASTE MANAGEMENT

U.S. Environmental Protection Agency (EPA)

The EPA is responsible for enforcing Federal hazardous materials and wastes regulations. The primary Federal laws pertaining to hazardous materials and wastes are the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The Federal statutes pertaining to hazardous materials and wastes are codified in the Federal Code of Regulations (40 CFR).

U.S. Department of Transportation

The U.S. Department of Transportation administers the Hazardous Materials Transportation Act (HMTA) by issuing inspection, training, and transportation requirements for hazardous materials.

California Environmental Protection Agency, Division of Toxic Substances Control (DTSC)

The Division of Toxic Substances Control enforces Federal hazardous materials and waste regulations in conjunction with the EPA, in addition to California laws that pertain to the management and/or disposal of hazardous materials and wastes. The State has its own versions of RCRA and CERCLA, which incorporate and add to Federal requirements. State hazardous materials and waste laws are codified in the California Code of Regulations (CCR), Title 26, Division 22. DTSC acts as the lead agency in some site investigations and remediation projects. DTSC establishes soil clean-up levels for contaminated sites based upon site-specific conditions and surrounding land uses.

California State Water Resources Control Board (SWRCB) and Regional Water Quality Control Board (RWQCB)

The SWRCB is the implementing agency for the Federal Water Pollution Control Act and other Federal water quality legislation. The RWQCB is a subsidiary of the SWRCB and enforces provisions of the Porter-Cologne Water Quality Control Act and underground tank regulations specified in the CCR, Title 16, Division 23, Subchapter 10. The RWQCB has the authority to require groundwater investigation and remediation if evidence suggests that the quality of groundwater or surface waters of the State are threatened.

California Highway Patrol

The California Highway Patrol (CHP) oversees hazardous material carrier driver licensing and safety requirements, driver training, and labeling and placarding of transport vehicles. The CHP is authorized to inspect hazardous materials transport vehicles annually, establish route and time restrictions, and determine compliance of hazardous materials transportation regulations.

State Fire Marshal

The California Pipeline Safety Act authorizes the State Fire Marshal to enforce State and Federal regulations pertaining to the management of intrastate pipelines containing hazardous liquids. The Federal Hazardous

Liquid Pipeline Safety Act specifies the requirements for operation and maintenance of the pipelines. The California Pipeline Safety Act is codified in the California Government code, Title 5, Chapter 5.5. The Federal codes are delineated in 49 Code of Federal Regulations, Part 195, Subpart A through F.

San Joaquin County Public Works Department and Community Development Department

The County Public Works Department Solid Waste Division oversees the County Hazardous Waste Management Plan. The County Community Development Department oversees the land use permitting process for hazardous waste treatment and disposal facilities.

San Joaquin County Office of Emergency Services

The San Joaquin County Office of Emergency Services (OES) reviews emergency response plans of industries, maintains an inventory of hazardous materials and waste data derived from business plans, and educates businesses about hazardous materials. The OES inspects businesses that manage hazardous materials or wastes and responds to hazardous materials incidents.

San Joaquin County Agricultural Commissioner's Office

The County Agricultural Commissioner's Office (ACO) investigates violations that involve the management of pesticides, herbicides, or other chemicals used in agricultural operations; as the ACO also issues permits for the use of certain restricted pesticides.

San Joaquin County Environmental Health Division

The San Joaquin County Environmental Health Division (EHD) regulates large and small quantity hazardous waste generators, administers the underground storage tank program, and enforces hazardous material and waste regulations. The EHD oversees the investigation and cleanup of contaminated underground storage tank sites under contract with the SWRCB.

San Joaquin County Air Pollution Control District and Fire Departments

The County Air Pollution Control District (APCD) regulates air emissions from industrial operations and from contaminated soils treated by aeration. The local fire departments enforce regulations for aboveground storage tanks and respond to hazardous materials chemical fires.

TABLE 10.14

AGENCY RECORDS REGARDING HAZARDOUS MATERIALS

LISTS REVIEWED
<ul style="list-style-type: none">• California Department of Health Services, July 1990, Abandoned Sites List.• California Department of Health Services, 1984, revised 1989, Expenditure Plan for the Hazardous Substance Cleanup Bond Act of 1984.• California Office of Planning and Research, November 1990, Hazardous Wastes and Substances Sites List (Cortese List).• California Regional Water Quality Control Board, April 1990, Leaky Underground Fuel Tank List, Central Valley Region.• California Regional Water Quality Control Board, September 1989, Toxic Pits Cleanup Act, Summary of Known Sites, North Coast Region.• California Regional Water Quality Control Board, January 1989, AB 1803 Program, List of Polluted Wells, Central Valley Region.• California Waste Management Board, June 1990, Solid Waste Information System List.• U.S. Environmental Protection Agency, August 1990, Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) List: Site/Event Listing.• U.S. Environmental Protection Agency, January 1989, National Priority List.

APPENDIX 10.15

DATA ON ELECTROMAGNETIC FIELDS

CURRENT EPIDEMIOLOGIC RESEARCH OF ELECTRIC AND MAGNETIC FIELDS AND CANCER/REPRODUCTIVE EFFECTS (Partial List)

ELECTRIC POWER RESEARCH INSTITUTE (Sponsor)

- Dr. Genevieve Matanoski of the Johns Hopkins University has completed a retrospective occupational study evaluating the incidence of acute leukemia among telephone company employees. A final report for these projects was due in late 1990.
- The University of Southern California is conducting an epidemiologic study to determine if residential EMF exposure increases the risk of childhood leukemia. The study was scheduled for completion in 1990.
- University of North Carolina - An epidemiologic occupational study evaluating incidence of cancer in electric utility employees. Directed by Dr. David Savitz, this study involves five major U.S. utilities in a study of about 150,000 white-male employees who worked for the companies between 1950 and 1986. The principle hypothesis being investigated is whether workers in certain utility jobs run an increased risk of leukemia or brain cancer. Scheduled for completion in 1992.
- A prospective epidemiologic study evaluating retardation of intrauterine growth and late spontaneous abortions in approximately 4,000 women who enter Yale-New Haven Medical Center for obstetric care is currently being conducted by researchers at Yale University. Detailed EMF exposure assessments will be conducted for about one-quarter of the women and the results will be used to model exposures for the rest. Those monitored will wear EPRI-developed personal EMF dosimetry devices for week-long periods at several points during their pregnancies. In addition, EMF dosimeters will be left in the homes of these women for 24-hour periods. The study is expected to be completed in 1993.

U.S. DEPARTMENT OF ENERGY

- Midwest Research Institute (Kansas City) - Continuation of their research on exposing human male volunteers to mixed magnetic and electric fields.

CALIFORNIA PUBLIC UTILITIES COMMISSION/CALIFORNIA DEPARTMENT OF HEALTH SERVICES

In accordance with California's Senate Bill 2519, the California Public Utilities Commission and the California Department of Health Services have selected three EMF projects to be funded:

- Enertech Consultants/University of Southern California are repeating detailed exposure assessments in 80 Denver homes that were part of the Savitz childhood cancer study.

- A study in Northern California of the association between water quality and the rate of spontaneous abortions in a number of women over the next three years has been extended to include EMF exposure. Results expected in 1992.
- University of Southern California - A study of the possible relationships between various electric and magnetic field exposure and childhood brain cancer. Final results are scheduled for 1993.

Source: California Department of Health Services, Workshop on EMF Controversy: The Role of Local Health Departments and Other Community Resources, Oakland, 8 March 1991.

APPENDIX 10.16

BIOTIC INFORMATION

TABLE 10.6-1

**PLANT SPECIES IDENTIFIED ON THE MOUNTAIN HOUSE
PROJECT SITE DURING SPRING 1991¹**

Common Name	Latin Name
Amaryllidaceae	
Blue dicks	<i>Brodiaea pulchella</i>
Anacardiaceae	
Poison oak	<i>Rhus diversiloba</i>
Betulaceae	
White alder	<i>Alnus rhombifolia</i>
Chenopodiaceae	
Pigweed	<i>Chenopodium</i> sp.
Saltbush	<i>Atriplex</i> sp.
Iodine bush	<i>Allenrolfea occidentalis</i>
Compositae	
Yarrow	<i>Achilleum millefolium</i>
Mayweed	<i>Anthemis cotula</i>
Coyote brush	<i>Baccharis pilularis</i>
Italian thistle	<i>Cardus pycnocephalus</i>
Yellow star thistle	<i>Centaurea solstitialis</i>
Canada thistle	<i>Cichorium intybus</i>
Chicory	<i>Cirsium arvensis</i>
Brass buttons	<i>Cotula coronopifolia</i>
Convolvulaceae	
Wild morning glory	<i>Convolvulus arvensis</i>
Cruciferae	
Wild mustard	<i>Brassica incana</i>
Wild radish	<i>Raphanus sativus</i>
Hedge mustard	<i>Sisymbrium officinale</i>
Cyperaceae	
Sedge	<i>Carex</i> sp.
Spike rush	<i>Heleocharis</i> sp.
California bulrush	<i>Scirpus californicus</i>
Fagaceae	
Valley oak	<i>Quercus lobata</i>

Table 10.16-1 - *continued*

Common Name	Latin Name
Graminaceae	
Slender oat	<i>Avena fatua</i>
Soft chess	<i>Bromus molli</i>
Foxtail brome	<i>Bromus rubens</i>
Bermuda grass	<i>Cynodon dactyon</i>
Salt grall	<i>Distichlis spicata</i>
Darnel	<i>Lolium temetulum</i>
Italian ryegrass	<i>Lolium multiflorum</i>
Green foxtail	<i>Setaria viridis</i>
Labiatae	
Horsemint	<i>Stachys rigida</i>
Leguminosae	
Annual lupine	<i>Lupine sp.</i>
Clover	<i>Trifolium sp.</i>
Common vetch	<i>Vicia angustifolia</i>
Moracea	
California nettle	<i>Urtica californica</i>
Papaveraceae	
California poppy	<i>Escholtzia californica</i>
Polygonaceae	
Curly dock	<i>Rumex crispus</i>
Bitter dock	<i>Rumex obtusifolia</i>
Rosaceae	
Wild rose	<i>Rosea sp.</i>
Cut-leaf blackberry	<i>Rubus laciniatus</i>
Blackberry	<i>Rubus procerus</i>
Salicaceae	
Fremont cottonwood	<i>Populus fremontii</i>
Willow	<i>Salix sp.</i>

Table 10.16-1 - *continued*

Common Name	Latin Name
Typhaceae	
Cattail	<i>Typha latifolia</i>
Umbelliferae	
Mudflat lilaeopsis	<i>Lilaeopsis masonii</i>

- ¹ This list does not include agricultural crop species and varieties or some of the exotics which have been planted in the farmstead garden plots. Most of the plants listed are pioneer or weed species which occupy fringes of agricultural fields. Shrub and tree species occur almost exclusively along the Old River levee and the upper banks of Mountain House Creek.

TABLE 10.16-2

**WILDLIFE SPECIES OBSERVED DIRECTLY OR INDIRECTLY
(i.e., TRACKS, SCAT, BIRD SONG) ON THE
MOUNTAIN HOUSE PROJECT SITE DURING SPRING 1991¹**

COMMON NAME	LATIN NAME
Class Amphibia	
Western toad	<i>Bufo boreas</i>
Pacific tree frog	<i>Hyla regilla</i>
Bullfrog	<i>Rana catesbeiana</i>
Class Rreptilia	
Pacific pond turtle	<i>Clemmys marmorata pallida</i>
Variegated skink	<i>Eumeces gilberti cancellosus</i>
California alligator lizard	<i>Gerrhonotus multicarinatus multicarin</i>
California king snake	<i>Lampropeltis getulus Californiae</i>
Pacific gopher snake	<i>Pituophis melanoleucus catenifer</i>
Northwestern fence lizard	<i>Sceloporus occidentalis occidentalis</i>
Valley garter snake	<i>Thamnophis sirtalis fitchi</i>
Class Mammalia	
Coyote	<i>Canis latrans</i>
Beaver	<i>Castor canadensis</i>
Opossum	<i>Didelphis marsupialis</i>
Feral cat	<i>Felis domesticus</i>
Black-tailed jackrabbit	<i>Lepus californicus</i>
Striped skunk	<i>Mephitis mephitis</i>
California meadow vole	<i>Microtus californicus</i>
Long-tailed weasel	<i>Mustela frenata</i>
House mouse	<i>Mus musculus</i>
Small bat species	<i>Myotis</i> sp.
Muskrat	<i>Ondatra zibethicus</i>
California ground squirrel	<i>Otospermophilus beecheyi</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Raccoon	<i>Procyon lotor</i>
Norway rat	<i>Rattus norvegicus</i>
Western harvest mouse	<i>Reithrodontomys megalotis</i>
Broad-footed mole	<i>Scapanus latamanus</i>
Audubon's cottontail	<i>Sylvilagus audobonii</i>
Botta's pocket gopher	<i>Thomomys bottae</i>
Fox species	<i>Vulpes</i> sp.

Table 10.16-2 - continued

COMMON NAME	LATIN NAME	
Class Aves		
Red-winged blackbird	<i>Agelaius phoeniceus</i>	PB
Tricolored blackbird	<i>Agelaius tricolor</i>	S
Mallard duck	<i>Anas platyrhynchos</i>	PB
Scrub jay	<i>Aphelocoma coerulescens</i>	PB
Golden eagle	<i>Aquila chrysaetos</i>	PB
Great blue heron	<i>Ardea herodias</i>	PB
Red-tailed hawk	<i>Buteo jamaicensis</i>	PB
Swainson's hawk	<i>Buteo swainsoni</i>	SB
California quail	<i>Callipepla californica</i>	PB
Anna's hummingbird	<i>Calypte anna</i>	PB
Common snipe	<i>Capella gallinago</i>	PB
House finch	<i>Carpodacus mexicanus</i>	PB
Great egret	<i>Casmerodius albus</i>	PB
Belted kingfisher	<i>Ceryle alcyon</i>	PB
Northern harrier	<i>Circus cyaneus</i>	PB
Marsh wren	<i>Cistothorus palustris</i>	PB
Red-shafted flicker	<i>Colaptes cafer</i>	PB
Rock dove	<i>Columba livia</i>	PB
American crow	<i>Corvus brachyrhynchos</i>	PB
Audubon's warbler	<i>Dendroica coronata</i>	SB
Black shouldered kite	<i>Elanus leucurus</i>	PB
Horned lark	<i>Eremophila alpestris</i>	PB
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	PB
American kestrel	<i>Falco sparverius</i>	PB
American coot	<i>Fulica americana</i>	PB
Black-necked stilt	<i>Himantopus mexicanus</i>	M
Cliff swallow	<i>Hirundo pyrrhonota</i>	SB
Barn swallow	<i>Hirundo rustica</i>	SB
Dark-eyed junco	<i>Junco hyemalis</i>	PB
Turkey vulture	<i>Lophodytes cucullatus</i>	PB
Acorn woodpecker	<i>Melanerpes formicivorus</i>	PB
Song sparrow	<i>Melospiza melodia</i>	PB
Northern mockingbird	<i>Mimus polyglottos</i>	PB
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>	SB
Long-billed curlew	<i>Numenius americanus</i>	PB
Screech owl	<i>Otus asio</i>	PB
Plain titmouse	<i>Parus inornatus</i>	PB
House sparrow	<i>Passer domesticus</i>	PB
Lazuli bunting	<i>Passerina amoena</i>	SB

Table 10.16-2 - *continued*

COMMON NAME	LATIN NAME	
Class Aves - continued		
Double-crested cormorant	<i>Phalacrocorax auritus</i>	M
Ring-necked pheasant	<i>Phasianus colchicus</i>	PB
Black-headed grosbeak	<i>Pheucticus melanolus</i>	SB
Hairy woodpecker	<i>Picoides villosus</i>	PB
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>	PB
Brown towhee	<i>Pipilo fuscus</i>	PB
Pied-billed grebe	<i>Podilymbus podiceps</i>	PB
Bushtit	<i>Psaltiparus minimus</i>	PB
Black phoebe	<i>Sayornis nigricans</i>	PB
White-breasted nuthatch	<i>Sitta carolinensis</i>	PB
Lesser goldfinch	<i>Spinus psaltria</i>	PB
American goldfinch	<i>Spinus psaltria</i>	PB
Chipping sparrow	<i>Spizella passerina</i>	SB
Western meadowlark	<i>Sturnella neglecta</i>	PB
European starling	<i>Sturnus vulgaris</i>	PB
Violet-green swallow	<i>Tachyneta thalassina</i>	SB
Bewick's wren	<i>Thryomanes bewickii</i>	PB
Greater yellowlegs	<i>Totanus melanoleucus</i>	M
American robin	<i>Turdus migratorius</i>	PB
Western kingbird	<i>Tyrannus verticalis</i>	SB
Barn owl	<i>Tyto alba</i>	PB
Orange-crowned warbler	<i>Vermivora celata</i>	MB
Warbling vireo	<i>Vireo gilvi</i>	PB
Hutton's vireo	<i>Vireo huttoni</i>	PB
Mourning dove	<i>Zenaida macroura</i>	PB
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	W

¹ This listing does not include most migrant bird species, bats, and terrestrial vertebrate species for which we have not personally observed or obtained at least two confirmed sightings for from local residents.

² Status code for bird species: P = permanent resident; S = summer visitant; W = winter visitant; M = migrant; B = breeds in area. This code is not appropriate for non-bird species.

BACKGROUND INFORMATION ON SWAINSON'S HAWK

LIFE HISTORY NOTES

The Swainson's hawk is monogamous, and pairs remain together year after year until one dies. Nesting begins well after arrival in Central California, usually in May. Incubation lasts from 28 to 35 days, and nestlings are fledged at between four and eight weeks of age. Nest sites include solitary trees or small groves adjacent to agricultural fields or open grassland (Bloom, 1984). Many of the nesting areas are associated with riparian woodland. Schloroff and Bloom (1984) report that 82 percent of the nests in their study were located within one mile of riparian forests. Estep (1989) confirms this finding with an estimate of 78 percent nesting in riparian areas. Nests are usually located near the tops of tall trees, sometimes up to 90 feet above ground (Mallette and Gould, 1978). Nest locations are normally within easy flying distance to agricultural fields with abundant rodent prey.

Major prey items of the Swainson's hawk include rodents (California meadow voles, pocket gophers, California ground squirrels), birds (meadow larks, mourning doves, young ring-necked pheasants), and larger insects such as grasshoppers and Jerusalem crickets. Foraging range depends upon both the abundance and availability of prey. Thus, a given piece of land could have a very high mouse population, but if the vegetative cover were such that these rodents could not be detected from an aerial perch, then the site would be of no value to this or any other soaring hawk species.

The need for abundant prey, combined with the proper terrain features which permits their capture, has been recently documented. In trapping studies of rodents, Estep (1989) obtained the highest capture rates in tomato fields (22 percent) followed by sugar beets (20 percent), edge habitats (19.5 percent), fallow fields and dryland pasture (10 percent), alfalfa (7 percent), and riparian vegetation (3.7 percent). However, Bechard (1982) noted the hunting areas of the Swainson's hawk were a function of prey vulnerability rather than prey density. Recent work with radio-tagged Swainson's hawks by Estep (1989) shows that over 50 percent of observed foraging time and 73 percent of successful prey captures were conducted during certain farm practices such as harvesting, disking, mowing, flood irrigation, and agricultural burning, in which cover was rapidly removed or prey otherwise disturbed, and more vulnerable to predation.

Another additional interesting finding of this radio tracking study was that, like gulls and crows, Swainson's hawks search for foraging sites in concert with active farm equipment. Unless field activities are being conducted, they spend little time on a single field before moving on in search of prey. This highly active foraging behavior results in this species traveling up to 18 miles from a nest site in search of prey, although the average distance in Central California is about 10 miles (Estep, 1989).

The actual home range area over which foraging occurs also varies greatly with land use. Craighead and Craighead (1956) recorded maximum foraging range in Wyoming as varying between 180 and 1,056 acres. In Central California, Estep (1989) recorded a range from 30 to 16,000 acres. Bechard (1982) found a direct correlation between foraging home range and cultivated land. Where the latter occupied more of the acreage in an area, the foraging area was consistently larger.

Mitigation Guidelines for Swainson's Hawks (*Buteo Swainsoni*) in the Central Valley of California

CURRENT AND RECOMMENDED MANAGEMENT

The Department of Fish and Game has established the mitigation goal of no net loss of Swainson's hawk breeding or foraging habitat, and has developed the following strategies and mitigation criteria to reverse the dramatic population decline of this species in the Central Valley. These criteria provide guidelines for lead agencies and project sponsors to follow in developing adequate mitigation for the loss of Swainson's hawk habitat. Direction for management towards restoration of this species is also included within this document. These guidelines are to be considered interim and will remain in effect until a comprehensive Swainson's Hawk Habitat Conservation Plan (HCP) is completed by the Department. Several HCP's for Swainson's hawk within specific project areas are currently being proposed. These guidelines will be used in conjunction with a Swainson's Hawk Recovery Plan to establish criteria for species recovery through population expansion into former habitat, recruitment of young into the population, and other identified recovery goals. Currently, translocation of active nests will not be considered a viable option to enable development to proceed. Hacking (controlled release) of captive reared young has not been employed to enhance the population at this time.

During project review, the Department will consider whether suitable foraging habitat occurs within a ten (10) mile radius of an active nest and contributes to maintaining that Swainson's hawk breeding territory. This ten-mile radius standard was developed from Department funded telemetry studies. It is considered to be a conservative estimate of the average flight distance from known active nest sites to suitable foraging habitats within the home range of a Swainson's hawk. Therefore, proposed development projects may be required to mitigate impacts at active nest sites and surrounding suitable feeding habitat areas; both of which are essential to the integrity of the breeding territory. In addition, since over 95% of Swainson's hawk nests occur on private land, a program of incentives for the private landowner is needed to ensure that crops which are compatible to the foraging needs of Swainson's hawks are not replaced by incompatible agriculture practices, urbanization, or other land uses.

If you have any questions, please contact Ms. Sherry Teresa, Environmental Services Wildlife Biologist, Region 2, (916) 355-7030, or Mr. Ron Schlorff, Nongame Section, Wildlife Management (916) 322-1261.

LEGAL STATUS

The Swainson's hawk is a migratory bird species protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R. 21). The Swainson's hawk is designated as a Candidate species for listing by the U.S. Fish and Wildlife Service under the federal Endangered Species Act (ESA; 16 U.S.C. 1513-1543). The State of California listed the Swainson's hawk as a Threatened species, thus providing them protection under the California Endangered Species Act [CESA] (Chapter 1.5 Fish and Game Code). In addition, Sections 3503, 3503.5, 3800 of the Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs. The DFG has interpreted the "take" clause in the CESA to include the destruction of either nesting and/or foraging habitat necessary to maintain the reproductive effort. Implementation of the take provisions of the CESA requires that project-related disturbance at active Swainson's hawk territories be reduced or eliminated during critical phases of the nesting cycle (March 1 - August 15 annually). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) is considered "taking" and is punishable by fines and/or imprisonment. Such taking would also violate federal law protecting migratory birds (e.g., MBTA).

The California Environmental Quality Act (CEQA) requires a mandatory findings of significance if impacts to threatened or endangered species are likely to occur (Sections 21001{c}, 21083. Guidelines 15380, 15064, 15065). Avoidance or mitigation must be presented to reduce impact to less than significant levels (See Mitigation Criteria #2.).

NATURAL HISTORY

The Swainson's hawk is a large broadwinged *buteo* which frequents open country. Approximately the same size as a red-tailed hawk (*Buteo jamaicensis*), but trimmer, Swainson's hawks weigh approximately 800 - 1100 gm. (1 3/4 - 2 lbs) , and have about a 125 cm. (4+') wingspan. The basic body plumage may be highly variable and is characterized by several color phases - light, dark, and rufous. In dark phase birds, the entire body of the bird may be sooty black. Adult birds generally have dark backs. The ventral or underneath sections may be light with a characteristic dark, wide "bib" from the lower throat down to the upper breast. The tail is gray ventrally with a subterminal dusky band, and narrow, less conspicuous barring proximally. The sexes are similar in appearance; females however, are slightly larger than males, as is the case in most sexually dimorphic raptors. There are no recognized subspecies (Palmer 1988).

The Swainson's hawk is a long distance migrator, leaving nesting grounds in northwestern Canada, the western U.S. and Mexico, most populations migrate to wintering grounds in the open pampas areas of South America (Argentina, Uruguay, southern Brazil). This round trip journey may exceed 14,000 miles. The birds will return to the nesting grounds in early March to establish breeding territories.

Swainson's hawks are monogamous and will remain so until the loss of a mate (Palmer 1988). Nest construction and courtship continues through April. The clutch (commonly 3-4 eggs) is laid in early-April to early-May. Incubation lasts 34-35 days, with both parents participating in the brooding of eggs and young. The young leave the nest approximately 42-44 days after hatching (June - July). The young remain with their parents and gain hunting practice until they depart on migration in the fall.

Reproductive Chronology *

MAR	APR	MAY	JUN	JUL	AUG	SEPT
X-----X						
X-----X						
	X-----X					
		X-----X				
			X-----X			
			X-----X			
				X-----X		
					X-----X	
						X-----X

ARRIVE FROM WINTERING GROUNDS (3/11 - 4/4)

COURTSHIP AND NEST CONSTRUCTION

EGGS LAID (4/1 - 5/1)

NESTLINGS FIRST APPEAR (mid-May)

NESTLING STAGE

(mid to late May - early July)

FLEDGING (July)

(late Aug. - mid- Sept) MIGRATION

* data from J. Estep 1989.

FORAGING REQUIREMENTS

Swainson's hawk nests in the Central Valley of California are generally found in scattered trees or along riparian systems adjacent to agricultural fields or pastures. These open fields and pastures are the primary forage areas. Major prey items for Central Valley birds include: California voles (*Microtus californicus*), valley pocket gophers (*Thomomys bottae*), deer mice (*Peromyscus maniculatus*), California ground squirrels (*Spermophilus beecheyi*), mourning doves (*Zenaida macroura*), ring-necked pheasants (*Phasianus colchicus*), meadowlarks (*Sturnella neglecta*), other passerines, grasshoppers (*Conocephalinae*), crickets (*Gryllidae*), and silphadids (Estep 1989). Swainson's hawks generally search for prey by soaring in open country and agricultural fields similar to northern harriers (*Circus cyaneus*) and ferruginous hawks (*Buteo regalis*). Often many hawks may be seen foraging together following tractors or other farm equipment capturing prey escaping from farming operations. During the breeding season, Swainson's hawks eat mainly vertebrates (small rodents and reptiles), whereas during migration vast numbers of insects are consumed (Palmer 1988).

Department of Fish and Game funded research has documented the importance of suitable foraging habitats (e.g., native grasslands, lightly-grazed pastures, alfalfa and other hay crops, and combinations of hay grain and row crops) within an energetically efficient flight distance from active Swainson's hawk nests (Estep pers. comm.). Recent telemetry studies to determine foraging requirements have shown that birds may require in excess of 15,000 acres of habitat or range up to 18.0 miles from the nest in search of prey (Estep 1989). The area needed for foraging is determined by crop types, agricultural practices, harvesting regimes, prey abundance and availability. Estep (1989) found that 73.4% of observed prey captures were in fields being harvested, disced, mowed or irrigated. Some of the preferred foraging habitats for Swainson's hawks include: (1) Alfalfa - low prey abundance but steady prey accessibility. (2) Fallow fields - high prey abundance and prey accessibility if not dominated by thistle. (3) Beet and Tomato fields - largest prey populations but dense cover reduces prey accessibility, except during harvesting operations when Swainson's hawks have been observed foraging almost exclusively in these fields from late-July to early-September. (4) Dry-land pasture provided the primary forage area for 1 radioed pair, and appears to be an important foraging area. (5) Irrigated pasture provides some forage habitat, especially during flooding. Unsuitable foraging habitat types include any crop where prey are not available due to the high density of vegetation, or have low abundance of prey such as rice fields, vineyards, orchards, and cotton fields.

NESTING REQUIREMENTS

Swainson's hawks nest throughout most of the floor of the Central Valley, although nesting habitat is fragmented and unevenly distributed. More than 85% of the known nests in the Central Valley are within riparian systems in Sacramento, Yolo, and

San Joaquin Counties. Much of the potential nesting habitat remaining in this area is in riparian forests, lone trees, oak groves, and roadside trees. The riparian areas are generally adjacent to and within easy flying distance to alfalfa or hay fields. Department research has shown that valley oaks (*Quercus lobata*), Fremont's cottonwood (*Populus fremontii*), willows (*Salix spp.*), sycamores (*Platanus spp.*), and walnut (*Juglans spp.*) are the preferred nest trees for Swainson's hawks (Bloom 1980, Estep 1989).

HISTORICAL AND CURRENT POPULATION STATUS

The Swainson's Hawk was historically (ca 1900) regarded as one of the most common and numerous raptor species in the state, so much so that they were often not given special mention in field notes. The breeding population has declined by an estimated 91% in California since the turn of the century (Bloom 1980). The historical Swainson's hawk population estimate, based on current densities and estimates of former available habitat, is 4,284 - 17,136 pairs (Bloom 1980). In 1979, approximately 375 \pm 50 breeding pairs of Swainson's hawks were estimated in California, and 280 (75%) of those pairs were estimated to be in the Central Valley (Bloom 1980). In 1988, 241 active breeding pairs were found in the Central Valley, with an additional 78 active pairs known in northeastern California. The 1989 population estimate was 430 pairs for the Central Valley and 550 pairs statewide. *This difference in population estimates reflect increased survey intensity, not an actual population increase.*

REASONS FOR DECLINE

The dramatic population decline from historic levels has been attributed to loss of native nesting and foraging habitat, and more recently from the conversion of agriculture to urban uses, changes to incompatible crop types and loss of suitable nesting trees. In addition, pesticides, shooting, disturbance at the nest site, and other disturbances on wintering areas may have contributed to their decline. The loss of nesting habitat within riparian areas has been accelerated by flood control practices and bank stabilization programs. Smith (1977) estimated that in 1850 over 770,000 acres of riparian habitat were present in the Sacramento Valley alone. Today less than 12,000 acres of riparian habitat remain. A 98% decrease in riparian vegetation has been documented within the Central Valley (Katibah 1983).

In summary, management needs of the Central Valley population of Swainson's hawks include ensuring the availability of suitable nesting habitat through the 1) preservation and recruitment of suitable nesting trees, 2) protection of existing nesting habitat from destruction or disturbance, 3) maintenance of compatible agricultural practices to preserve forage habitat, and 4) mitigation for loss of breeding and/or foraging habitat. Coordination and cooperation with local agencies must be continued to prevent further habitat destruction from development projects.

MITIGATION CRITERIA

GOAL: NO NET LOSS OF SWAINSON'S HAWKS NESTING OR FORAGING HABITAT

I. Consultation under California Environmental Quality Act (CEQA) and/or California Endangered Species Act (CESA).

1. Project Consultation

Project proponent must consult with the DFG regarding take of an endangered species or its habitat pursuant to Section 2081 of CESA, and appropriate Fish and Game Code Sections.

A. Pursuant to Article 4 of CESA, State agencies are required to consult with the DFG to ensure that any action authorized, funded or carried out by that state agency will not jeopardize the continued existence of any endangered species.

2. CEQA and Subdivision Map Act

Project proponents are encouraged to consult the Department's California Natural Diversity Data Base and Nongame Section to receive updated locational information regarding active Swainson's hawk territories. Due to the complexities of individual cases, it is advisable that developers or others planning projects or actions that may impact one or more Swainson's hawk territories initiate communication with the Department as early as possible.

A. CEQA Guidelines Sec. 15065 directs that a mandatory finding of significance is required for projects that have the potential to substantially degrade or reduce the habitat of, or restrict the range of a threatened or endangered species. CEQA requires agencies to implement feasible mitigation measures or feasible alternatives identified in EIR's for projects which will otherwise cause significant adverse impacts (Sections 21002, 21081, 21083; Guidelines, sections 15002, subd. (a)(3), 15021, subd. (a)(2), 15091, subd. (a).).

To be legally adequate, mitigation measures must be capable of "avoiding the impact altogether by not taking a certain action or parts of an action"; "minimizing impacts by limiting the degree or magnitude of the action and its implementation"; "rectifying the impact by repairing,

rehabilitating or restoring the impacted environment"; "or reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action." (Guidelines, section 15370).

B. Section 66474 (e) of the Subdivision Map Act states "a legislative body of a city or county shall deny approval of a tentative map or parcel map for which a tentative map was not required, if it makes any of the following findings:... (e) that the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially and avoidably injure fish and wildlife or their habitat". In recent court cases, the court upheld that Section 66474(e) provides for environmental impact review separate from and independent of the requirements of CEQA (*Topanga Assn. for a Scenic Community v. County of Los Angeles*, 263 Cal. Rptr. 214 (1989).). The finding in Section 66474 is in addition to the requirements for the preparation of an EIR or Negative Declaration.

II. Maintenance of breeding pairs and their habitat.

1. Prevention of disturbance at the nest site.

A. No disturbance should occur within 1/2 mile of an active nest between March 1 - August 15. If the nest tree is to be removed and fledglings are present, the nest tree may not be removed until September 15. If construction or other project related activities which may cause nest abandonment or forced fledging are proposed within this 1/2 mile buffer zone, intensive monitoring (funded by the project sponsor) by a Department approved raptor biologist will be required. Exact implementation of this measure will be based upon specific information at the project site.

2. Prevention of loss of nest trees.

A. Projects should be designed to avoid direct and indirect impacts to nest trees.

B. Revegetation of historical nesting habitat with suitable native nest trees species (e.g., oaks, cottonwoods, sycamores, etc.) adjacent to adequate forage habitat shall

be undertaken.

3. Maintenance of sufficient foraging habitat to support breeding pairs and successful fledging of young.

A. Impact avoidance and project alternatives must be thoroughly analyzed and discussed with DFG representatives prior to adverse modification of foraging habitat as required by CEQA (Section 21002; Guidelines sec.15002, 15021,15126, 21100). This discussion must focus on alternatives capable of either eliminating any significant adverse environmental effect or reducing them to a level less than significant, even if such alternatives would be more costly or to some degree impede the projects objectives.

B. Potential foraging areas are described as identified foraging habitat types located within a 10-mile radius from an active Swainson's nesting territory. Any adverse modification of these foraging areas may require mitigation for loss of foraging habitat. The criteria for assessing this mitigation is as follows:

- a. Territory must have been used at least once historically (as determined by DFG Swainson's hawk nesting records).
- b. Mitigation will be required for all lands within the defined foraging area (10 miles), excluding the following: Lands which are currently in urban use or lands that have no existing or potential value for foraging Swainson's hawks as determined by site specific surveys by a DFG qualified raptor biologist.
- c. Mitigation for foraging areas shall be a minimum 1:1 acre ratio (i.e., 1 acre replacement for each 1 acre loss of habitat). Increased mitigation ratios may be necessary in certain instances in order to maintain adequate foraging habitat to support Swainson's hawk populations or if a project site provides breeding or forage habitat for more than

one pair. Habitat conservation plans for several areas are currently being prepared which may identify new information regarding habitat requirements for nesting pairs. Therefore, these criteria are to be considered interim guidelines and mitigation ratios may increase for future projects based on additional information from scientific research on this species.

4. Retention of Habitat

Retain and create sufficient quality habitat to maintain existing population levels and to allow for future population increases to meet recovery goals for the Swainson's hawk (as to be determined by the Swainson's Hawk Recovery Plan).

A. Restoration and enhancement of Swainson's hawk nesting and foraging habitats through the creation and establishment of mitigation banks.

a. Mitigation banks must meet the following minimum criteria:

1. Minimum acreage size of 1,200 contiguous or semi-contiguous acres of undeveloped land. Smaller individual projects may participate in mitigation banks or fee assessment programs to acquire the minimum acreage needed to support a nesting pair.

2. Creation or enhancement of riparian woodlands may be required for some projects. These riparian areas should be not less than 300' wide, with the successful establishment of native riparian species, such as: cottonwoods, oaks, sycamores, and willows. Revegetation plans submitted by the project sponsor shall include but is not limited to the following:

1. Tree densities
2. Species compositions
3. Amount of cover
4. Compensated revegetation for loss due to fire or pests

3. Agriculture practices shall be incorporated into the bank or mitigation area to produce crop types such as but not limited to: alfalfa, dry pasture or native grasslands with little to no grazing, disced fields with hedge rows left approximately every 100 feet, and tomato/beet/row crop fields, or other crops which are compatible for foraging Swainson's hawks.

4. Fee title to land or permanent conservation easements obtained for the Department of Fish and Game, or its designee.

5. Management and operation plans must be incorporated with the mitigation plan and implemented by the project proponent prior to project construction.

6. Project proponent would be responsible for the successful establishment of Swainson's hawk nesting/foraging areas in perpetuity. Monitoring programs will require an annual written review submitted to the DFG for the first 5 years, and thereafter written reviews will be required every 3-5 years for private mitigation projects.

III. Restoration of Swainson's hawk population.

1. Support and acquire funding to continue research related to breeding success, contaminants, dispersal, movement, mortality, habitat use, and other identified research needs. Responsibility: DFG Nongame Bird and Mammal Section.

2. Development and completion of a Habitat Conservation Plan and a Recovery Plan. Responsibility: DFG Nongame Bird and Mammal Section.

3. Coordinate with local agencies for long term planning to maintain sufficient quality habitat for Swainson's hawks. Responsibility: DFG Nongame Bird and Mammal Section and Regional Environmental Services staff.

- A. Maintain close coordination with city and county agencies, other state agencies, local agricultural districts, federal agencies, and private conservation organizations to organize a concerted land use plan sensitive to the need of the Swainson's hawk and other listed or sensitive species.
- B. Protect and maintain agricultural preserves.
- C. Coordinate management planning with responsible agencies.

Bibliography

Bloom, P.H. 1980. The Status of the Swainson's Hawk in California, 1979. Federal Aid in Wildlife Restoration, Project W-54-R-12, Nongame Wldl. Invest. Job Final Rept 11-8.0. Calif. Dept. of Fish and Game, Sacramento, CA. 24 pp. + appendix.

Estep, J. 1989. Biology, movements, and habitat relationships of the Swainson's Hawk in the Central Valley of California, 1986-87. Calif. Dept. of Fish and Game, Nongame Bird and Mammal Sec. Rep., Sacramento, CA. 52 pp.

Katibah, E.F. 1983. A brief history of riparian forests in the Central Valley of California. IN: R.E. Warner and K.M. Hendrix (eds.) California Riparian Systems: Ecology, Conservation, and Productive Management. Univ. of Ca. Press, Berkeley. 1035 p.

Palmer, R.S. 1988. Handbook of North American Birds: Raptors Vol. II. Smithsonian Instit. Washington, D.C.

Schmultz, J. 1980. IN: R.S. Palmer.

Smith, F. 1977. Short review of the status of riparian forests in California. In: Sands, A. (ed.) Riparian forests in California : their ecology and conservation. Inst. of Ecology Publ. 15 Univ. of Calif., Davis. 122 p.

California Dept. of Fish and Game, Region 2, Environmental Services, May 1990.
8/29/90 update

APPENDIX 10.17
TRANSPORTATION DATA

TABLE 10.17-1

LEVEL OF SERVICE DEFINITIONS

LEVEL OF SERVICE	DEFINITION	VOLUME-TO-CAPACITY RATIO
A	Conditions of free flow; speed is controlled by driver's desires, speed limits, or physical roadway conditions	0. to 0.34
B	Conditions of stable flow; operating speeds beginning to be restricted; little or no restrictions on maneuverability from other vehicles	0.35 to 0.50
C	Conditions of stable flow; speeds and maneuverability more closely restricted; occasional backups behind left-turning vehicles at intersections	0.51 to 0.74
D	Conditions approach unstable flow; tolerable speeds can be maintained but temporary restrictions may cause extensive delays; little freedom to maneuver; comfort and convenience low; at intersection, some motorists, especially those making left turns, may wait through one or more signal changes	0.75 to 0.89 ¹
E	Conditions approach capacity; unstable flow with stoppages of momentary duration; maneuverability severely limited	0.90 ¹ to 0.99
F	Forced flow conditions; stoppages for long periods; low operating speeds	1.00 or >

1

Caltrans District 10 uses a slightly different definition of LOS D and LOS E for freeways. Caltrans LOS D = 0.78 to 0.93 V/C, LOS E = 0.94 to 0.99 V/C.

Source: San Joaquin Public Works Department; Caltrans District 10.

APPENDIX 10.18

FUNDAMENTAL CONCEPTS OF ENVIRONMENTAL NOISE

APPENDIX 10.18

FUNDAMENTAL CONCEPTS OF ENVIRONMENTAL NOISE

Noise is defined as unwanted sound. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing. Decibels and other technical terms are defined in Table 10.18-1.

Most of the sounds we hear in the environment do not consist of a single frequency, but rather a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound. The method commonly used to quantify environmental sounds consists of evaluating all of the frequencies of a sound in accordance with a weighting that reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies than in the frequency mid-range. This evaluation is called "A" weighting, and the measured decibel level is called the A-weighted sound level (dBA). In practice, the level of a sound source is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve. Typical A-levels measured in the environment and in industry are shown in Table 10.18-2 for different types of noise.

Although the A-weighted noise level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a conglomeration of noise from distant sources which create a relatively steady background noise in which no particular source is identifiable. To describe the time-varying character of environmental noise, the statistical noise descriptors, L_{10} , L_{50} , and L_{90} , are commonly used. They are the A-weighted noise levels equaled or exceeded during 10%, 50%, and 90% of a stated time period. A single number descriptor called the L_{eq} is now also widely used. The L_{eq} is the average A-weighted noise level during a stated period of time.

In determining the daily level of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises. During the nighttime, exterior background noises are generally lower than the daytime levels. However, most household noise also decreases at night and exterior noise becomes very noticeable. Further, most people sleep at night and are very sensitive to noise intrusion. To account for human sensitivity to nighttime noise levels, a descriptor, L_{dn} (day/night average sound level), was developed. The L_{dn} divides the 24-hour day into the daytime of 7:00 AM to 10:00 PM and the nighttime of 10:00 PM to 7:00 AM. The nighttime noise level is weighted 10 dB higher than the daytime noise level. The Community Noise Equivalent Level (CNEL) is another 24-hour average which includes both an evening and nighttime weighting.

The effects of noise on people can be listed in three general categories:

- subjective effects of annoyance, nuisance, dissatisfaction;

TABLE 10.18-1

DEFINITIONS OF ACOUSTICAL TERMS

<u>TERM</u>	<u>DEFINITION</u>
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.
L_{01} , L_{10} , L_{50} , L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels to levels in the evening from 7:00 PM to 10:00 PM and after addition of 10 decibels to sound levels in the night between 10:00 PM and 7:00 AM.
Day/Night Noise Level, L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 PM and 7:00 AM.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

TABLE 10.18-2

TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT AND INDUSTRY

At a Given Distance from Noise Source	A-Weighted Sound Level (decibels)	Noise Environments	Subjective Impression
	140		
Civil Defense Siren (100 feet)	130		Pain threshold
Jet Takeoff (200 feet)	120		
	110	Rock music concert	
Pile Driver (50 feet) Ambulance Siren (100 feet)	100		Very loud
	90	Boiler room	
Freight Cars (50 feet)		Printing press plant	
Pneumatic Drill (50 feet)	80	In kitchen with garbage disposal running	
Freeway (100 feet)	70		Moderately loud
Vacuum Cleaner (10 feet)	60	Data processing center	
Department Store			
Light Traffic (100 feet)	50	Private business office	
Large Transformer (200 feet)	40		Quiet
Soft Whisper (5 feet)	30	Quiet bedroom	
	20	Recording studio	
	10		Threshold of hearing
	0		

- interference with activities such as speech, sleep, learning;
- physiological effects such as startling and hearing loss.

The levels associated with environmental noise, in almost every case, produce effects only in the first two categories. Workers in industrial plants can experience noise in the last category. Unfortunately, there is as yet no completely satisfactory way to measure the subjective effects of noise, or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance, and habituation to noise over differing individual past experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is to compare the new noise with the existing or "ambient" environment to which one has adapted. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by the hearers.

With regard to increases in A-weighted noise level, knowledge of the following relationships will be helpful in understanding this report.

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived.
- Outside of the laboratory, a 3 dB change is considered a just-perceivable difference.
- A change in level of at least 5 dB is required before any noticeable change in community response would be expected.
- A 10 dB change is subjectively heard as approximately a doubling in loudness, and would almost certainly cause an adverse change in community response.

TABLE 10.18-3
Hourly Noise Measurements
Location A
110 Ft. from the Center of Byron Road
35 Ft. from the Southern Pacific Tracks
(see Figure 4.16-1)

Date	Hour	Beginning	L_{eq}^1	L_{01}^2	L_{10}	L_{50}	L_{90}
January 21, 1991		2:00 pm	62	74	66	53	41
		3:00 pm	62	74	66	56	43
		4:00 pm	63	74	68	58	46
		5:00 pm	66	76	70	61	43
		6:00 pm	65	76	70	58	36
		7:00 pm	62	74	66	54	34
		8:00 pm	62	74	66	50	36
		9:00 pm	58	72	62	44	34
		10:00 pm	60	74	63	42	34
		11:00 pm	59	72	63	40	32
January 22, 1991		12:00 am	58	74	54	30	24
		1:00 am	59	74	54	25	20
		2:00 am	60	76	58	26	21
		3:00 am	60	74	60	31	22
		4:00 am	61	74	64	38	24
		5:00 am	64	76	68	54	36
		6:00 am	69	79	74	64	47
		7:00 am	69	78	73	65	51
		8:00 am	66	77	71	58	46
		9:00 am	64	76	70	53	42
		10:00 am	64	75	68	51	36
		11:00 am	64	75	70	52	38
		12:00 pm	63	74	68	50	38

$$L_{dn}^3 = 69 \text{ dBA}$$

Note: No trains during the monitoring.

¹ L_{eq} -- The average A-weighted noise level during the measurement period.

² L_{01} , L_{10} , L_{50} , L_{90} -- The A-weighted noise levels that are exceeded during the measurement period 01, 10, 50 and 90 percent of the time, respectively.

³ Day/Night Sound Level (L_{dn}) -- A descriptor established by the U.S. Environmental Protection Agency (EPA) for the 24-hour average A-weighted noise level. Sound levels during the hours from 10:00 pm to 7:00 am are penalized 10 dB to account for the increased sensitivity during the nighttime hours.

TABLE 10.18-4
15-Minute Noise Measurements
January 22, 1991
(see Figure 4.16-1)

Location	Description	Time Starting	L _{eq}	L ₀₁	L ₁₀	L ₅₀	L ₉₀	Comments
1	110 ft. from the center of Byron Rd.; same as long-term monitoring Location B	1:10 pm	64	75	68	52	38	Traffic on Byron Bethany Rd. is the only significant noise source; a total of 44 cars, 3 medium trucks and 19 heavy trucks went by during the measurement at an average speed of 55 mph.
2	50 ft. from the center of Patterson Pass Rd.	3:20 pm	62	75	66	47	38	Traffic on Patterson Pass Rd. is the major noise source; a total of 33 cars, 2 medium trucks and 6 heavy trucks went by during the measurement at an average speed of 50 mph.
3	82 ft. from the center of Van Sosten Rd.; bldg. set- back of Lammersville School	3:40 pm	51	63	52	44	38	Traffic on Van Sosten Rd. is the only significant noise source; a total of 15 cars went by during the measurement at an average speed of 40 mph.
4	50 ft. from the center of Hansen Rd.	4:00 pm	44	56	42	37	34	Children playing in the Lammersville School yard was the major noise contributor (40-45 dBA); a total of 2 cars accessed Hansen Rd. during the measurement at an average speed of 35 mph.

Table 10.18-4 (Continued)

Location	Description	Time Starting	L _{eq}	L ₀₁	L ₁₀	L ₅₀	L ₉₀	Comments
5	100 ft. from the center of Grant Line Rd.	3:30 pm	56	68	59	41	36	Traffic on Grant Line Rd. is the only significant noise source; a total of 27 cars and 1 heavy truck went by during the measurement at an average speed of 55 mph.
6	100 ft. from the center of Bethany Rd.	4:05 pm	52	66	55	37	34	Traffic on Bethany Rd. is the only significant noise source; a total of 14 cars went by during the measurement at an average speed of 55 mph.
7	100 ft. from the center of Kelso Rd.	4:30 pm	52	64	55	45	37	Traffic on Kelso Rd., Byron Rd. and plane flyovers are the significant noise sources; a total of 4 cars on Kelso Rd. and two plane flyovers were observed during the measurement.

TABLE 10.18-5
Hourly Noise Measurements
Location B
24 Ft. from the Center of Patterson Pass Rd.
(see Figure 4.16-1)

Date	Hour Beginning	L_{eq}^1	L_{01}^2	L_{10}	L_{50}	L_{90}
January 21, 1991	3:00 pm	68	83	66	52	46
	4:00 pm	70	86	70	49	42
	5:00 pm	65	79	63	47	42
	6:00 pm	66	80	61	45	39
	7:00 pm	67	81	56	41	36
	8:00 pm	67	82	57	41	34
	9:00 pm	62	78	52	38	34
	10:00 pm	66	81	52	40	35
	11:00 pm	60	73	48	40	34
January 22, 1991	12:00 am	66	78	50	42	36
	1:00 am	65	78	48	38	34
	2:00 am	64	78	48	40	35
	3:00 am	60	66	48	40	36
	4:00 am	63	76	54	45	40
	5:00 am	62	74	59	48	41
	6:00 am	68	82	66	46	39
	7:00 am	70	84	68	50	41
	8:00 am	68	82	63	48	40
	9:00 am	66	81	61	43	36
	10:00 am	67	82	60	42	35
	11:00 am	70	86	68	44	38
	12:00 pm	70	85	66	46	40
	1:00 pm	67	82	61	46	40
	2:00 pm	69	84	62	46	40

$$L_{dn}^3 = 72 \text{ dBA}$$

¹ L_{eq} -- The average A-weighted noise level during the measurement period.

² L_{01} , L_{10} , L_{50} , L_{90} -- The A-weighted noise levels that are exceeded during the measurement period 01, 10, 50 and 90 percent of the time, respectively.

³ Day/Night Sound Level (L_{dn}) -- A descriptor established by the U.S. Environmental Protection Agency (EPA) for the 24-hour average A-weighted noise level. Sound levels during the hours from 10:00 pm to 7:00 am are penalized 10 dB to account for the increased sensitivity during the nighttime hours.

TABLE 10.18-6
Hourly Noise Measurements
Location C
At the Right-of-Way of Interstate 205
(see Figure 4.16-1)

Date	Hour Beginning	L_{eq}^1	L_{01}^2	L_{10}	L_{50}	L_{90}
January 22, 1991	3:00 pm	75	82	78	74	68
	4:00 pm	74	82	78	74	68
	5:00 pm	74	82	78	74	68
	6:00 pm	74	82	77	72	68
	7:00 pm	74	82	77	72	66
	8:00 pm	72	82	76	70	64
	9:00 pm	73	82	76	70	64
	10:00 pm	72	82	76	70	65
	11:00 pm	71	82	74	66	59
January 23, 1991	12:00 am	70	82	74	63	55
	1:00 am	70	82	74	62	54
	2:00 am	70	82	74	62	52
	3:00 am	72	83	78	66	52
	4:00 am	76	84	80	73	62
	5:00 am	78	84	82	76	72
	6:00 am	78	84	81	78	74
	7:00 am	78	84	80	77	74
	8:00 am	77	84	80	76	70
	9:00 am	76	84	80	75	68
	10:00 am	76	84	80	74	67
	11:00 am	76	84	80	74	66
	12:00 pm	76	84	80	73	64
	1:00 pm	76	83	80	73	65
	2:00 pm	75	82	78	74	68

$$L_{dn}^3 = 81 \text{ dBA}$$

¹ L_{eq} -- The average A-weighted noise level during the measurement period.

² L_{01} , L_{10} , L_{50} , L_{90} -- The A-weighted noise levels that are exceeded during the measurement period 01, 10, 50 and 90 percent of the time, respectively.

³ Day/Night Sound Level (L_{dn}) -- A descriptor established by the U.S. Environmental Protection Agency (EPA) for the 24-hour average A-weighted noise level. Sound levels during the hours from 10:00 pm to 7:00 am are penalized 10 dB to account for the increased sensitivity during the nighttime hours.

TABLE 10.18-7
Hourly Noise Measurements
Location D
30 Ft. from the Center of Grant Line Road
(see Figure 4.16-1)

Date	Hour Beginning	L_{eq} ¹	L_{01} ²	L_{10}	L_{50}	L_{90}
January 22, 1991	4:00 pm	70	82	74	59	44
	5:00 pm	68	80	73	55	45
	6:00 pm	64	77	66	47	42
	7:00 pm	62	76	58	45	40
	8:00 pm	62	76	56	45	41
	9:00 pm	58	73	51	44	40
	10:00 pm	58	74	52	42	40
	11:00 pm	58	73	52	42	38
January 23, 1991	12:00 am	54	68	50	46	43
	1:00 am	60	72	52	46	42
	2:00 am	60	74	53	48	45
	3:00 am	56	70	50	46	43
	4:00 am	61	76	52	48	46
	5:00 am	65	79	64	52	50
	6:00 am	70	80	76	57	49
	7:00 am	72	82	76	61	50
	8:00 am	66	79	66	52	49
	9:00 am	64	78	64	56	54
	10:00 am	64	78	66	55	52
	11:00 am	65	78	66	50	44
	12:00 pm	63	77	64	46	42
	1:00 pm	64	78	66	47	39
	2:00 pm	66	80	68	49	42

L_{dn} ³ = 70 dBA

¹ L_{eq} -- The average A-weighted noise level during the measurement period.

² L_{01} , L_{10} , L_{50} , L_{90} -- The A-weighted noise levels that are exceeded during the measurement period 01, 10, 50 and 90 percent of the time, respectively.

³ Day/Night Sound Level (L_{dn}) -- A descriptor established by the U.S. Environmental Protection Agency (EPA) for the 24-hour average A-weighted noise level. Sound levels during the hours from 10:00 pm to 7:00 am are penalized 10 dB to account for the increased sensitivity during the nighttime hours.

TABLE 10.18-8
Hourly Noise Measurements
Location E
70 Ft. from the Center of Mountain House Road Centerline
100 Ft. to the South of Mountain House School
(see Figure 4.16-1)

Date	Hour Beginning	L_{eq}^1	L_{01}^2	L_{10}	L_{50}	L_{90}
October 26, 1989	3:00 pm	61	72	66	50	40
	4:00 pm	62	72	67	55	46
	5:00 pm	63	72	68	56	46
	6:00 pm	62	73	68	52	42
	7:00 pm	62	73	66	50	40
	8:00 pm	60	72	64	48	37
	9:00 pm	58	70	60	44	38
	10:00 pm	56	70	56	46	42
	11:00 pm	58	70	55	42	36
October 27, 1989	12:00 am	55	70	54	38	36
	1:00 am	52	67	44	37	36
	2:00 am	48	60	40	38	36
	3:00 am	52	67	52	39	37
	4:00 am	59	72	62	42	36
	5:00 am	62	74	67	48	42
	6:00 am	64	74	70	54	44
	7:00 am	65	74	70	60	52
	8:00 am	62	72	68	54	46
	9:00 am	60	72	64	49	43
	10:00 am	58	70	60	50	44
	11:00 am	60	71	63	53	46
	12:00 pm	58	70	61	47	38
	1:00 pm	58	70	60	50	38

$L_{dn}^3 = 66$ dBA

Source: Vasco Road and Utility Relocation EIR, Illingworth & Rodkin, Inc., November 8, 1989.

¹ L_{eq} -- The average A-weighted noise level during the measurement period.

² L_{01} , L_{10} , L_{50} , L_{90} -- The A-weighted noise levels that are exceeded during the measurement period 01, 10, 50 and 90 percent of the time, respectively.

³ Day/Night Sound Level (L_{dn}) -- A descriptor established by the U.S. Environmental Protection Agency (EPA) for the 24-hour average A-weighted noise level. Sound levels during the hours from 10:00 pm to 7:00 am are penalized 10 dB to account for the increased sensitivity during the nighttime hours.

APPENDIX 10.19

FISCAL DATA

Per Capita Multipliers
San Joaquin County

Budget Division	1991-92 NCC (1)	Estimating Procedure (2)	Per Capita Multiplier	Multiplier by Division
General Government				
Board of Supervisors	\$872,501	cpc	\$1.8	
Munic. Advisory Council	\$1,186	cpc	\$0.0	
County Administrator	\$833,031	cpc	\$1.7	
Empl. & Econ. Development	\$0	cpc	\$0.0	
Clerk of the Board	\$244,130	cpc	\$0.5	
Public Information	\$83,037	cpc	\$0.2	
Auditor-Controller	\$1,178,585	cpc	\$2.4	
Single Audit	\$24,220	cpc	\$0.0	
Operating Transfers	\$2,178,343	cpc	\$4.4	
Data Processing	(\$84,905)	out		
Office Automation Int. Serv. Fund	\$13,880	cpc	\$0.0	
Treasurer-Tax Collector	\$1,133,585	cpc	\$2.3	
Assessor	\$4,204,041	cpc	\$8.6	
General Services/Purchasing	\$1,123,479	cpc	\$2.3	
Communications	\$120,493	cpc	\$0.2	
Central Services	\$202,027	cpc	\$0.4	
Collections	\$599,725	CSD - OUT		
County Counsel	\$963,270	cpc	\$2.0	
Personnel	\$479,346	cpc	\$1.0	
Registrar of Voters	\$974,297	cpc	\$2.0	
Advertising County Services	\$100,084	cpc	\$0.2	
Surveyor	\$217,772	cpc	\$0.4	
Retirement Administration	\$219,011	cpc	\$0.4	
Rebates & Refunds	\$55,000	cpc	\$0.1	
Motor Pool Contribution	\$244,500	cpc	\$0.5	
Judgements & Damages	\$500	out		
Equipment Use Allowance, Debt	\$3,347,233	out		
Recorder	(\$109,170)	out		
	\$19,219,201			\$31.6
Capital Maintenance & Improvement				
CAO - Capital Projects Division	\$0	out		
Government Buildings	\$4,177,296	cpc	\$8.5	
Public Improvement	\$450,000	upc	\$3.6	
	\$4,627,296			\$12.1
Environmental Protection				
Fire Prevention	\$42,153	upc	\$0.3	
Flood Channel Maintenance	\$0			
Agricultural Commissioner	\$1,199,659	out		
Weights and Measures	\$373,267	cpc	\$0.8	
Animal Control Division	\$498,343	CSD - OUT		
Public Administrator	\$57,914	upc	\$0.5	
Neighborhood Preservation	\$0			
Building Inspection	\$1,390,923	CSD - OUT		
Development Services	\$0			
Planning Division	\$952,962	CSD - OUT		
COG/ALUC	\$6,000	upc	\$0.0	
Emergency Services	\$121,218	cpc	\$0.2	
Fish & Game	\$0			
	\$4,642,439			\$1.9
Law and Justice				
County Clerk	\$7,809	cpc	\$0.0	
District Attorney	\$6,673,042	cpc	\$13.6	
Career Criminal Project	\$4,800	cpc	\$0.0	
Subvention Program	\$93,993	cpc	\$0.2	
victim/Witness Program	\$91,618	cpc	\$0.2	
Gang Violence Project	\$18,698	cpc	\$0.0	

Victim Assistance Center	\$0		
Major Pusher Suppression	\$0		
Child Abduction Unit	\$0		
Youth Gang Prevention Program	\$27,932	cpc	\$0.1
Anti-Drug Abuse Enforcement	\$0		
Family Support Division	\$0		
Public Defender	\$4,419,150	cpc	\$9.0
Vertical Defense of Indigents	\$12,267	cpc	\$0.0
Subvention Program	\$83,975	cpc	\$0.2
Integrated Criminal Justice	\$1,092,572	out	
Court Assigned Counsel	\$2,416,000	cpc	\$4.9
Sheriff-Admin/Support Services	\$1,501,888	upc	\$12.0
Sheriff-STC Training	\$0		
Boating Safety	\$425,786	upc	\$3.4
Sheriff-Narcotics Enforcement	\$0		
Sheriff-Patrol	\$7,458,581	CSD - OUT	
Sheriff-Communications	\$1,425,283	upc	\$11.4
Sheriff-Detectives	\$2,041,364	CSD - OUT	
Sheriff-Records/Evidence	\$1,606,714	upc	\$12.8
Sheriff-Court Services	\$942,519	cpc	\$1.9
Sheriff-Civil	\$389,731	cpc	\$0.8
Sheriff-Coroner/Morgue	\$703,972	cpc	\$1.4
Sheriff-Lathrop Contract	\$0		
Sheriff-Custody	\$21,625,635	cpc	\$44.1
Sheriff-Jail Transition	\$128,315	out	
Sheriff-Work Programs	\$90,796	cpc	\$0.2
Stockton Marshall	\$732,895	cpc	\$1.5
Lodi Marshall	\$246,343	cpc	\$0.5
M-R-E Marshall	\$342,819	cpc	\$0.7
Probation-Administration	\$623,365	cpc	\$1.3
Pretrial Services	\$438,436	cpc	\$0.9
Alcohol/Drug Alternative	\$143,192	cpc	\$0.3
Probation-Juvenile	\$2,027,243	cpc	\$4.1
Probation-Adult	\$878,876	cpc	\$1.8
Probation - STC Training	\$0	out	
Probation-Youth Gang Prevention	\$33,333	cpc	\$0.1
Juvenile Hall	\$3,739,128	cpc	\$7.6
Home Supervision	\$46,813	cpc	\$0.1
Operating Transfers to Courts	\$5,655,254	cpc	\$11.5
Superior Court	\$3,144,738	cpc	\$6.4
Grand Jury	\$72,117	cpc	\$0.1
Stockton Municipal Court	\$1,836,954	cpc	\$3.7
Lodi Municipal Court	\$267,681	cpc	\$0.5
M-R-E Municipal Court	\$362,668	cpc	\$0.7
Tracy Municipal Court	\$133,213	cpc	\$0.3
	-----		-----
	\$74,007,508		\$158.5
Roads and Facilities			
- Most divisions financed through Road Fund -			
Road Fund Services - Contribution	\$93,000	cpc	\$0.2
Flood Control-Engineering	\$0	out	
Public Transportation	\$0	out	
Airport Enterprise Fund Contrib.	\$397,800	out	
Special Aviation	\$0	out	
	-----		-----
	\$490,800		\$0.2
Health Services			
Hospital Enterprise Fund	\$2,017,150	cpc	\$4.1
"	\$2,254,000	cpc	\$4.6
Mental Health-Pharmacy	\$0	out	
Mental Health Services	\$1,558,204	cpc	\$3.2
Drug Abuse	\$56,784	cpc	\$0.1
Alcoholism Services	\$408,217	cpc	\$0.8
Public Health	\$4,667,755	cpc	\$9.5
Air Pollution Control	\$0	out	
California Children Services	\$708,146	cpc	\$1.4
Operating Transfers	\$3,693,962	cpc	\$7.5
"	\$2,600,393	cpc	\$5.3
Utility Districts	\$0	out	
Solid Waste Enterprise Fund	\$0	out	
Solid Waste Closure Ent. Fund	\$0	out	

	\$17,964,611		\$36.7
Human Services			
Public Assistance-Administration	\$6,651,147	cpc	\$13.6
AFDC	\$8,314,958	cpc	\$17.0
Foster Care	\$957,223	cpc	\$2.0
Aid for Adoption of Children	\$0	out	
Public Assistance-General Relief	\$2,805,189	cpc	\$5.7
Public Assistance-Childrens Serv.	\$0	out	
Public Assistance-Homemaker Serv.	\$43,323	cpc	\$0.1
Public Assistance-Adult Special	\$0	out	
Public Assistance-Indochinese	\$0	out	
Public Assistance-Refugee Ass't	\$0	out	
Public Assistance-Food Stamp t.	\$9,750	cpc	\$0.0
Public Assistance-Temp. Homeless	\$0	out	
Public Assistance-Gain Program	\$0	out	
Mary Graham Children's Shelter	\$1,384,734	cpc	\$2.8
Aging and Community Services	\$132,954	cpc	\$0.3
"	\$28,646	cpc	\$0.1
Community Services	\$293,291	cpc	\$0.6
Burials	\$12,700	cpc	\$0.0
Alternate Care Homes	\$0	out	
Veterans Service	\$209,417	cpc	\$0.4
	\$20,843,332		\$42.5
Education			
Supt. of Schools	\$702,867	cpc	\$1.4
Board of Education	\$44,403	cpc	\$0.1
School District Organization	\$800	cpc	\$0.0
Education-Juvenile Hall	\$35,466	cpc	\$0.1
County Library	\$0	out	
Library Administration	\$57,519	cpc	\$0.1
UC Cooperative Extension	\$331,461	out	
	\$1,172,516		\$1.7
Parks and Recreation			
Recreation	\$106,513	out	
Parks and Recreation	\$1,950,919	CSD - OUT	
Litter Control Program	\$176,699	upc	\$1.4
Cultural Services	\$32,276	cpc	\$0.1
	\$2,266,407	out	\$1.5
Contingency	\$5,000,000	out	

(1) NCC represents Net County Costs that are financed with General Purpose revenues. The Source of these estimates is a data file provided by the Office of the County Administrator.

(2) "cpc" indicates the multiplier is based on countywide population (490,008 at 1/1/91).
 "upc" indicates the multiplier is based on unincorporated population (125,573 at 1/1/91).
 "out" indicates the cost is not expected to be affected by project development.
 "CSD - OUT" indicates costs assumed to be financed through a special district such as a Community Service District.

Source: San Joaquin County Administrator; Economic and Planning Systems, Inc.

Table 1
General Assumptions
Mountain House New Town

General		Existing Conditions	
-----		-----	
Year Development Starts	1993	Dwelling Units (Occupied)	NA
Year of Analysis	1991	Assessed Value	NA
Appreciation Rate	6.0%	Road Miles (center line)	NA
Inflation Rate	5.0%	Countywide Population	490,008 DOF, 1991
Legislated Tax Escalation Rate	2.0%	Unincorporated Population	125,573 DOF, 1991
Property Turnover Rates (% per year)		Public Buildings	NA
o Residential	10.0%	Park/Landscaped Area Acres	NA
o Nonresidential	0.0%	Park Acres Only	NA

Table 2
Land Use Assumptions
Mountain House New Town

Land Use	Descriptive Units	Value per Acre or Unit (1)	Real Market Appreciation Rate	Turnover Rate (2)	Demographics		
					Persons per DU	Children per DU	Employees per Acre
Low Density Residential	unit	\$229,000	6.0%	10.0%	3.1	0.0	0
Medium Density Res.	unit	\$189,000	6.0%	10.0%	2.7	0.0	0
Med.-High Density Res.	unit	\$169,000	6.0%	10.0%	2.0	0.0	0
High Density Res.	unit	\$83,000	6.0%	0.0%	2.0	0.0	0
Community Commercial	acre	\$2,090,000	6.0%	0.0%	0.0	0.0	24
Town Center	acre	\$2,600,000	6.0%	0.0%	0.0	0.0	51
Neighborhood Comm.	acre	\$2,030,000	6.0%	0.0%	0.0	0.0	24
General Commercial	acre	\$2,060,000	6.0%	0.0%	0.0	0.0	24
Freeway Service	acre	\$1,800,000	6.0%	0.0%	0.0	0.0	24
Office Commercial	acre	\$2,600,000	6.0%	0.0%	0.0	0.0	44
Limited Industrial	acre	\$650,000	6.0%	0.0%	0.0	0.0	26
General Industrial	acre	\$580,000	6.0%	0.0%	0.0	0.0	14
Neighborhood Parks	acre	NA	NA	NA	NA	NA	NA
Community Parks	acre	NA	NA	NA	NA	NA	NA
Regional Parks	acre	NA	NA	NA	NA	NA	NA
Resource Conservation	acre	NA	NA	NA	NA	NA	NA

NA - not applicable

(1) Per dwelling unit for residential uses and per acre for nonresidential uses.

(2) See text for additional information regarding turnover assumptions.

Sources: Trimark Communities; Baseline Environmental Consulting; Economic and Planning Systems, Inc.

Table 3
Annual Development Schedule (Units and Acres)
Mountain House New Town

Land Use	Fiscal Year Ending																			Total
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010		
Residential																				

Low Density Residential																				
Units	315	315	315	258	258	258	258	258	302	302	302	302	302	332	332	332	332	332	332	5,409
Acres	70	70	70	57	57	57	57	57	67	67	67	67	67	74	74	74	74	74	74	1,202
Medium Density Res.																				
Units	608	608	608	442	442	442	442	442	446	446	446	446	446	339	339	339	339	339	339	7,960
Acres	76	76	76	55	55	55	55	55	56	56	56	56	56	42	42	42	42	42	42	995
Med.-High Density Res.																				
Units	52	52	52	185	185	185	185	185	84	84	84	84	84	94	94	94	94	94	94	1,968
Acres	4	4	4	15	15	15	15	15	7	7	7	7	7	8	8	8	8	8	8	164
High Density Res.																				
Units	0	0	0	50	50	50	50	50	83	83	83	83	83	0	0	0	0	0	0	666
Acres	0	0	0	3	3	3	3	3	5	5	5	5	5	0	0	0	0	0	0	37
Commercial																				

Community Commercial (acres)	5	5	5	6	6	6	6	6	3	3	3	3	3	0	0	0	0	0	0	62
Town Center (acres)	5	5	5	1	1	1	1	1	4	4	4	4	4	0	0	0	0	0	0	43
Neighborhood Comm. (acres)	3	3	3	1	1	1	1	1	4	4	4	4	4	2	2	2	2	2	2	47
General Commercial (acres)	4	4	4	5	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	36
Freeway Service (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	5	5	5	5	27
Office Commercial (acres)	6	6	6	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	60
Industrial																				

Limited Industrial (acres)	16	16	16	19	19	19	19	19	20	20	20	20	20	15	15	15	15	15	15	317
General Industrial (acres)	13	13	13	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	110
Parks and Open Space																				

Neighborhood Parks (acres)	3	3	3	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	62
Community Parks (acres)	16	16	16	5	5	5	5	5	8	8	8	8	8	4	4	4	4	4	4	129
Regional Parks (acres)	0	0	0	14	14	14	14	14	0	0	0	0	0	0	0	0	0	0	0	70
Resource Conservation (acres)	13	13	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40

Source: Trimark Communities; Baseline Environmental Consulting; Economic and Planning Systems, Inc.

Table 4a
 New Assessed Valuation (\$ 000's)
 Mountain House New Town

Land Use	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Market Value of New Units											
Low Density Residential	\$81,051	\$85,914	\$91,069	\$79,188	\$83,939	\$88,975	\$94,314	\$99,973	\$124,015	\$131,456	\$139,344
Medium Density Res.	129,115	136,862	145,074	111,692	118,393	125,497	133,026	141,008	151,093	160,159	169,768
Med.-High Density Res.	9,874	10,467	11,095	41,794	44,302	46,960	49,778	52,764	25,423	26,948	28,565
High Density Res.	0	0	0	5,598	5,934	6,290	6,667	7,067	12,307	13,046	13,829
Community Commercial	11,742	12,446	13,193	17,900	18,974	20,113	21,319	22,598	11,229	11,902	12,616
Town Center	14,607	15,483	16,412	4,871	5,163	5,473	5,802	6,150	19,556	20,729	21,973
Neighborhood Comm.	7,603	8,059	8,543	3,803	4,031	4,273	4,530	4,801	14,542	15,414	16,339
General Commercial	9,258	9,814	10,403	13,232	14,026	14,868	15,760	16,706	0	0	0
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	18,502	19,612	20,789	15,309	16,228	17,202	18,234	19,328	17,694	18,755	19,881
Limited Industrial	11,685	12,387	13,130	16,179	17,150	18,179	19,270	20,426	23,281	24,678	26,159
General Industrial	8,689	9,211	9,763	3,570	3,785	4,012	4,252	4,508	5,609	5,945	6,302
Total	\$302,127	\$320,254	\$339,470	\$313,137	\$331,926	\$351,841	\$372,952	\$395,329	\$404,749	\$429,034	\$454,776
Assessed Value of Previously Built Units											
Low Density Residential	\$0	\$82,996	\$173,273	\$271,626	\$361,138	\$458,915	\$565,749	\$682,488	\$810,039	\$967,852	\$1,140,114
Medium Density Res.	0	\$132,214	\$276,026	\$432,703	\$560,495	\$700,154	\$852,801	\$1,019,635	\$1,201,942	\$1,402,761	\$1,622,053
Med.-High Density Res.	0	\$10,111	\$21,109	\$33,091	\$76,915	\$124,634	\$176,658	\$233,428	\$295,412	\$331,869	\$371,833
High Density Res.	0	0	0	0	5,710	11,877	18,530	25,702	33,424	46,646	60,886
Community Commercial	0	11,976	24,911	38,866	57,901	78,413	100,496	124,252	149,787	164,236	179,661
Town Center	0	14,899	30,990	48,350	54,286	60,638	67,433	74,700	82,466	104,063	127,288
Neighborhood Comm.	0	7,755	16,131	25,167	29,549	34,252	39,296	44,703	50,494	66,337	83,386
General Commercial	0	9,444	19,643	30,646	44,756	59,958	76,323	93,924	112,843	115,099	117,401
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	0	18,872	39,254	61,243	78,084	96,198	115,667	136,579	159,025	180,253	202,988
Limited Industrial	0	11,919	24,792	38,680	55,956	74,568	94,602	116,149	139,307	165,839	194,328
General Industrial	0	8,863	18,435	28,762	32,979	37,499	42,341	47,525	53,073	59,856	67,117
Total	\$0	\$309,049	\$644,564	\$1,009,135	\$1,357,771	\$1,737,107	\$2,149,898	\$2,599,085	\$3,087,811	\$3,604,812	\$4,167,056

Table 4a
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	2004	2005	2006	2007	2008	2009	2010
Market Value of New Units							
Low Density Residential	\$147,704	\$156,567	\$182,206	\$193,138	\$204,726	\$217,010	\$230,030
Medium Density Res.	179,954	190,752	153,640	162,859	172,630	182,988	193,968
Med.-High Density Res.	30,279	32,096	37,910	40,184	42,595	45,151	47,860
High Density Res.	14,658	15,538	0	0	0	0	0
Community Commercial	13,373	14,176	0	0	0	0	0
Town Center	23,292	24,689	0	0	0	0	0
Neighborhood Comm.	17,319	18,359	9,730	10,314	10,933	11,589	12,284
General Commercial	0	0	0	0	0	0	0
Freeway Service	0	0	23,295	24,692	26,174	27,744	29,409
Office Commercial	21,073	22,338	0	0	0	0	0
Limited Industrial	27,728	29,392	23,678	25,099	26,605	28,201	29,893
General Industrial	6,680	7,081	5,560	5,894	6,247	6,622	7,019
Total	\$482,062	\$510,986	\$436,018	\$462,179	\$489,910	\$519,305	\$550,463
Assessed Value of Previously Built Units							
Low Density Residential	\$1,328,117	\$1,533,251	\$1,757,002	\$2,017,601	\$2,301,584	\$2,610,946	\$2,947,830
Medium Density Res.	\$1,861,418	\$2,122,572	\$2,407,358	\$2,668,034	\$2,952,082	\$3,261,307	\$3,597,649
Med.-High Density Res.	\$415,580	\$463,403	\$515,620	\$576,557	\$642,949	\$715,233	\$793,876
High Density Res.	76,209	92,685	110,387	112,595	114,847	117,144	119,486
Community Commercial	196,123	213,687	232,420	237,068	241,810	246,646	251,579
Town Center	152,247	179,049	207,813	211,969	216,208	220,533	224,943
Neighborhood Comm.	101,719	121,419	142,574	155,350	168,977	183,508	198,998
General Commercial	119,749	122,144	124,587	127,079	129,621	132,213	134,857
Freeway Service	0	0	0	23,760	49,422	77,107	106,949
Office Commercial	227,326	253,367	281,219	286,843	292,580	298,432	304,401
Limited Industrial	224,896	257,676	292,810	322,817	354,874	389,108	425,655
General Industrial	74,888	83,200	92,086	99,599	107,603	116,127	125,204
Total	\$4,778,272	\$5,442,453	\$6,163,877	\$6,839,273	\$7,572,556	\$8,368,303	\$9,231,427

Table 4b
 New Assessed Valuation (\$ 000's)
 Mountain House New Town

Land Use	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Assessed Value											

Low Density Residential	\$81,051	\$168,910	\$264,342	\$350,813	\$445,077	\$547,890	\$660,063	\$782,460	\$934,054	\$1,099,309	\$1,279,457
Medium Density Res.	129,115	269,076	421,100	544,395	678,888	825,651	985,828	1,160,643	1,353,035	1,562,920	1,791,821
Med.-High Density Res.	9,874	20,578	32,204	74,886	121,217	171,594	226,436	286,193	320,834	358,817	400,399
High Density Res.	0	0	0	5,598	11,644	18,167	25,198	32,769	45,732	59,692	74,715
Community Commercial	11,742	24,423	38,104	56,766	76,876	98,526	121,815	146,850	161,016	176,138	192,278
Town Center	14,607	30,382	47,402	53,221	59,449	66,111	73,235	80,849	102,022	124,792	149,261
Neighborhood Comm.	7,603	15,814	24,673	28,970	33,581	38,526	43,826	49,504	65,036	81,751	99,725
General Commercial	9,258	19,258	30,046	43,879	58,783	74,826	92,083	110,630	112,843	115,099	117,401
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	18,502	38,484	60,043	76,553	94,312	113,399	133,901	155,907	176,718	199,008	222,869
Limited Industrial	11,685	24,306	37,922	54,859	73,106	92,747	113,872	136,575	162,588	190,517	220,486
General Industrial	8,689	18,073	28,198	32,332	36,764	41,511	46,593	52,033	58,682	65,801	73,420
Total	\$302,127	\$629,304	\$984,033	\$1,322,273	\$1,689,696	\$2,088,948	\$2,522,849	\$2,994,413	\$3,492,560	\$4,033,845	\$4,621,832

Note: This table represents the sum of the columns in Table 4a.

Table 4b
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	2004	2005	2006	2007	2008	2009	2010
Total Assessed Value							

Low Density Residential	\$1,475,822	\$1,689,818	\$1,939,208	\$2,210,739	\$2,506,310	\$2,827,956	\$3,177,860
Medium Density Res.	2,041,372	2,313,323	2,560,999	2,830,893	3,124,713	3,444,295	3,791,617
Med.-High Density Res.	445,859	495,499	553,530	616,741	685,545	760,384	841,736
High Density Res.	90,867	108,223	110,387	112,595	114,847	117,144	119,486
Community Commercial	209,497	227,863	232,420	237,068	241,810	246,646	251,579
Town Center	175,538	203,738	207,813	211,969	216,208	220,533	224,943
Neighborhood Comm.	119,039	139,778	152,304	165,663	179,909	195,096	211,282
General Commercial	119,749	122,144	124,587	127,079	129,621	132,213	134,857
Freeway Service	0	0	23,295	48,453	75,595	104,852	136,357
Office Commercial	248,399	275,705	281,219	286,843	292,580	298,432	304,401
Limited Industrial	252,624	287,068	316,487	347,916	381,479	417,309	455,548
General Industrial	81,568	90,281	97,646	105,493	113,850	122,749	132,224
Total	\$5,260,335	\$5,953,439	\$6,599,895	\$7,301,453	\$8,062,467	\$8,887,608	\$9,781,890

Table 5
Property Tax (\$ 000's)
Mountain House New Town

Item	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Assessed Value (Nominal Dolars)	\$302,127	\$629,304	\$984,033	\$1,322,273	\$1,689,696	\$2,088,948	\$2,522,849	\$2,994,413	\$3,492,560	\$4,033,845	\$4,621,832
Assessed Value (Constant 1991 Dollars)	274,038	543,616	809,567	1,036,035	1,260,877	1,484,576	1,707,564	1,930,226	2,144,129	2,358,506	2,573,609
Property Tax (@ 1% of Assessed Value)	\$2,740	\$5,436	\$8,096	\$10,360	\$12,609	\$14,846	\$17,076	\$19,302	\$21,441	\$23,585	\$25,736
Allocation of Tax by Fund (Constant \$'s)											
County General Fund	45.0%	\$1,233	\$2,446	\$3,643	\$4,662	\$5,674	\$6,681	\$7,684	\$8,686	\$9,649	\$10,613
Road Fund	6.2%	170	337	502	642	782	920	1,059	1,197	1,329	1,462
Library Fund	3.5%	96	190	283	363	441	520	598	676	750	825
Fire District	13.2%	362	718	1,069	1,368	1,664	1,960	2,254	2,548	2,830	3,113
Other Agencies (1)	32.1%	880	1,745	2,599	3,326	4,047	4,765	5,481	6,196	6,883	7,571
Total	100.0%	\$2,740	\$5,436	\$8,096	\$10,360	\$12,609	\$14,846	\$17,076	\$19,302	\$21,441	\$23,585

Note: the Mountain House site falls within three Tax Rate Areas; the tax allocation factors noted above represent approximate averages.

(1) Other agencies include Delta Community College, Tracy Cemetery District, County Flood Control, Mosquito Abatement District, Westside Irrigation District, County Office of Education, Lammersville Elementary School District, and the Tracy High School District.

Table 5
Property Tax (\$ 000's)
Mountain House New Town

Item		2004	2005	2006	2007	2008	2009	2010
Assessed Value (Nominal Dolars)		\$5,260,335	\$5,953,439	\$6,599,895	\$7,301,453	\$8,062,467	\$8,887,608	\$9,781,890
Assessed Value (Constant 1991 Dollars)		2,789,668	3,006,891	3,174,662	3,344,880	3,517,627	3,692,985	3,871,026
Property Tax (@ 1% of Assessed Value)		\$27,897	\$30,069	\$31,747	\$33,449	\$35,176	\$36,930	\$38,710
Allocation of Tax by Fund (Constant \$'s)								
County General Fund	45.0%	\$12,554	\$13,531	\$14,286	\$15,052	\$15,829	\$16,618	\$17,420
Road Fund	6.2%	1,730	1,864	1,968	2,074	2,181	2,290	2,400
Library Fund	3.5%	976	1,052	1,111	1,171	1,231	1,293	1,355
Fire District	13.2%	3,682	3,969	4,191	4,415	4,643	4,875	5,110
Other Agencies (1)	32.1%	8,955	9,652	10,191	10,737	11,292	11,854	12,426
Total	100.0%	\$27,897	\$30,069	\$31,747	\$33,449	\$35,176	\$36,930	\$38,710

Table 6
Resident Population by Land Use
Mountain House New Town

Land Use	Fiscal Year Ending																		
	Total	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Low Density Residential	16,876	983	983	983	806	806	806	806	806	943	943	943	943	943	1,036	1,036	1,036	1,036	1,036
Medium Density Res.	21,492	1,642	1,642	1,642	1,192	1,192	1,192	1,192	1,192	1,205	1,205	1,205	1,205	1,205	916	916	916	916	916
Med.-High Density Res.	3,936	104	104	104	370	370	370	370	370	168	168	168	168	168	187	187	187	187	187
High Density Res.	1,332	0	0	0	101	101	101	101	101	166	166	166	166	166	0	0	0	0	0
Community Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Town Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Neighborhood Comm.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freeway Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limited Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Total	43,636	2,728	2,728	2,728	2,469	2,469	2,469	2,469	2,469	2,482	2,482	2,482	2,482	2,482	2,139	2,139	2,139	2,139	2,139
Cumulative Total		2,728	5,457	8,185	10,654	13,123	15,592	18,061	20,530	23,012	25,495	27,977	30,459	32,942	35,081	37,219	39,358	41,497	43,636

Table 7
Annual Revenues (\$ 000's)
Mountain House New Town

ITEM	1991-92 Approved Revenues	Percent of Total Revenues	Estimating Procedure	Per Capita Multiplier Based on Budget	Fiscal Year Ending											
					1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
General Purpose Revenues																
Property Tax	\$84,600	66.0%	See Table 5		\$1,233	\$2,446	\$3,643	\$4,662	\$5,674	\$6,681	\$7,684	\$8,686	\$9,649	\$10,613	\$11,581	\$12,554
State-shared Revenue	26,100	20.4%	Per Capita	\$53.26	145	291	436	567	699	830	962	1,094	1,226	1,358	1,490	1,622
Sales Taxes	7,200	5.6%	Per Capita (1)	\$42	115	229	344	447	551	655	759	862	967	1,071	1,175	1,279
Document Transfer Taxes	3,100	2.4%	See Table 10		242	281	323	335	379	426	476	531	578	639	706	778
Other Revenues	7,200	5.6%	Per Capita	\$14.69	40	80	120	157	193	229	265	302	338	375	411	448
Total General Purpose Rev.	128,200	100.0%			\$1,775	\$3,327	\$4,866	\$6,169	\$7,496	\$8,821	\$10,146	\$11,474	\$12,756	\$14,056	\$15,364	\$16,681
Other Funds																
Fire Protection (property taxes only)			See Table 5		\$362	\$718	\$1,069	\$1,368	\$1,664	\$1,960	\$2,254	\$2,548	\$2,830	\$3,113	\$3,397	\$3,682
Road Fund - Maintenance																
o Property Taxes (Road District)			See Table 5		\$170	\$337	\$502	\$642	\$782	\$920	\$1,059	\$1,197	\$1,329	\$1,462	\$1,596	\$1,730
o Gas Taxes \$6,683			Per Capita	\$13.64	37	74	112	145	179	213	246	280	314	348	382	415
o Fines and Forfeitures \$691			Per Capita	\$1.41	4	8	12	15	18	22	25	29	32	36	39	43
Total - Road Fund					\$211	\$419	\$625	\$803	\$979	\$1,155	\$1,330	\$1,506	\$1,676	\$1,846	\$2,017	\$2,188
Library (property taxes only)			See Table 5		\$96	\$190	\$283	\$363	\$441	\$520	\$598	\$676	\$750	\$825	\$901	\$976

(1) Represents per capita taxable sales of approximately \$4,000 per year, and a sales tax rate of 1.05 percent (the 0.05 percent comprises unallocated taxable sales).

Table 7
Annual Revenues (\$ 000's)
Mountain House New Town

ITEM	1991-92 Approved Revenues	Percent of Total Revenues	Estimating Procedure	Per Capita Multiplier Based on Budget	2005	2006	2007	2008	2009	2010
General Purpose Revenues										
Property Tax	\$84,600	66.0%	See Table 5		\$13,531	\$14,286	\$15,052	\$15,829	\$16,618	\$17,420
State-shared Revenue	26,100	20.4%	Per Capita	\$53.26	1,755	1,869	1,982	2,096	2,210	2,324
Sales Taxes	7,200	5.6%	Per Capita (1)	\$42	1,384	1,473	1,563	1,653	1,743	1,833
Document Transfer Taxes	3,100	2.4%	See Table 10		856	909	996	1,089	1,189	1,298
Other Revenues	7,200	5.6%	Per Capita	\$14.69	484	515	547	578	610	641
Total General Purpose Rev.	128,200	100.0%			\$18,010	\$19,053	\$20,140	\$21,246	\$22,371	\$23,516
Other Funds										
Fire Protection (property taxes only)			See Table 5		\$3,969	\$4,191	\$4,415	\$4,643	\$4,875	\$5,110
Road Fund - Maintenance										
o Property Taxes (Road District)			See Table 5		\$1,864	\$1,968	\$2,074	\$2,181	\$2,290	\$2,400
o Gas Taxes	\$6,683		Per Capita	\$13.64	449	478	508	537	566	595
o Fines and Forfeitures	\$691		Per Capita	\$1.41	46	49	52	55	58	61
Total - Road Fund					\$2,360	\$2,496	\$2,634	\$2,773	\$2,914	\$3,057
Library (property taxes only)			See Table 5		\$1,052	\$1,111	\$1,171	\$1,231	\$1,293	\$1,355

Table 8
Expenditures for Services (\$ 000's)
Mountain House New Town

DEPARTMENT	1991-92 Total Net County Cost (NCC)	Cost Bases for NCC				Fiscal Year Ending										
		Countywide Population	Unincorp. Population	Not Allocated	Cost Multiplier	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
Countywide Programs																
General Government	\$19,304	\$15,466	\$0	\$3,838	\$31.6	\$86	\$172	\$258	\$336	\$414	\$492	\$570	\$648	\$726	\$805	
Capital Maint. & Improvment	\$4,627	\$4,177	\$450	\$0	12.1	33	66	99	129	159	189	219	249	279	309	
Environmental Protection (1)	\$4,642	\$495	\$106	\$4,041	1.9	5	10	15	20	24	29	33	38	43	47	
Law and Justice (2)	\$74,000	\$59,966	\$4,534	\$9,500	158.5	432	865	1,297	1,688	2,080	2,471	2,862	3,254	3,647	4,040	
Roads and Facilities (3)	\$491	\$93	\$0	\$398	0.2	1	1	2	2	2	3	3	4	4	5	
Health Services	\$17,965	\$17,965	\$0	\$0	36.7	100	200	300	391	481	572	662	753	844	935	
Human Services	\$20,843	\$20,843	\$0	\$0	42.5	116	232	348	453	558	663	768	873	979	1,084	
Education	\$1,173	\$841	\$0	\$332	1.7	5	9	14	18	23	27	31	35	40	44	
Parks and Recreation (4)	\$2,266	\$177	\$139	\$1,951	1.5	4	8	12	16	19	23	26	30	34	37	
Urban Programs																
Law Enforcement																
o Patrol	Basis: see Footnote 5 below				\$116.4	\$318	\$635	\$953	\$1,240	\$1,528	\$1,815	\$2,102	\$2,390	\$2,679	\$2,968	
o Detectives, Traffic	Basis: City of Tracy FY 1991-92 budget				11.7	32	64	96	125	154	182	211	240	269	298	
Administration/Finance	Basis: City of Tracy FY 1991-92 budget				22.6	62	123	185	241	297	352	408	464	520	576	
Planning/Bldg. Inspection	Basis: City of Tracy FY 1991-92 budget				2.8	8	15	23	30	37	44	51	57	64	71	
Public Works/Engineering	Basis: City of Tracy FY 1991-92 budget				24.4	67	133	200	260	320	380	441	501	561	622	
Animal Control	Basis: City of Tracy FY 1991-92 budget				4.5	12	25	37	48	59	70	81	92	104	115	
Parks and Recreation																
o Park Maint. (per acre)	Basis: See Footnote 6 below					\$114	\$228	\$342	\$420	\$497	\$575	\$652	\$730	\$796	\$862	
o Recreation & Admin.	Basis: City of Tracy FY 1991-92 budget				6.4	17	35	52	68	84	100	116	131	147	163	
					=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	
Total General Purpose Costs						\$1,411	\$2,822	\$4,233	\$5,484	\$6,736	\$7,987	\$9,238	\$10,489	\$11,736	\$12,982	
Programs Financed through Other Funds																
Fire Protection	Basis: City of Tracy FY 1991-92 budget				\$67.5	\$184	\$368	\$553	\$719	\$886	\$1,052	\$1,219	\$1,386	\$1,553	\$1,721	
Road Maintenance	Basis: See Footnote 7 below					56	112	168	216	264	312	360	408	457	506	
Library	Basis: County Library FY 1991-91 budget				\$12.6	34	69	103	134	165	196	228	259	290	321	

Notes:

- (1) Excludes Community Development expenditures.
- (2) Excludes expenditures for Patrol and Investigation (detective) functions.
- (3) Represents expenditures not allocated to Road Fund.
- (4) Represents expenditures for litter control only.
- (5) At the request of the County, Mountain House is assumed to require 1.5 patrol officers per 1,000 population. Annual costs per deputy is \$77,600.
- (6) Maintenance costs for neighborhood/community parks average \$6,000 per acre (based on average costs for other communities in the Central Valley).
Maintenance costs for regional parks are assumed to average \$1,600 per year (based on similar expenditures in the Bay Area, and on County experience).
- (7) Road maintenance costs are assumed to average \$12,000 per street mile. Street miles are presented in Table 11.

Table 8
Expenditures for Services (\$ 000's)
Mountain House New Town

DEPARTMENT	1991-92 Total Net County Cost (NCC)	Cost Bases for NCC				Cost Multiplier	2003	2004	2005	2006	2007	2008	2009	2010
		Countywide Population	Unincorp. Population	Not Allocated										
Countywide Programs														
General Government	\$19,304	\$15,466	\$0	\$3,838	\$31.6	\$883	\$961	\$1,040	\$1,107	\$1,175	\$1,242	\$1,310	\$1,377	
Capital Maint. & Improvment	\$4,627	\$4,177	\$450	\$0	12.1	339	369	399	425	451	477	502	528	
Environmental Protection (1)	\$4,642	\$495	\$106	\$4,041	1.9	52	56	61	65	69	73	77	81	
Law and Justice (2)	\$74,000	\$59,966	\$4,534	\$9,500	158.5	4,434	4,827	5,221	5,560	5,899	6,238	6,577	6,916	
Roads and Facilities (3)	\$491	\$93	\$0	\$398	0.2	5	6	6	7	7	7	8	8	
Health Services	\$17,965	\$17,965	\$0	\$0	36.7	1,026	1,117	1,208	1,286	1,365	1,443	1,521	1,600	
Human Services	\$20,843	\$20,843	\$0	\$0	42.5	1,190	1,296	1,401	1,492	1,583	1,674	1,765	1,856	
Education	\$1,173	\$841	\$0	\$332	1.7	48	52	57	60	64	68	71	75	
Parks and Recreation (4)	\$2,266	\$177	\$139	\$1,951	1.5	41	45	48	51	55	58	61	64	
Urban Programs														

Law Enforcement														
o Patrol	Basis: see Footnote 5 below				\$116.4	\$3,257	\$3,545	\$3,834	\$4,083	\$4,332	\$4,581	\$4,830	\$5,079	
o Detectives, Traffic	Basis: City of Tracy FY 1991-92 budget				11.7	327	356	385	410	435	460	486	511	
Administration/Finance	Basis: City of Tracy FY 1991-92 budget				22.6	632	688	744	793	841	889	938	986	
Planning/Bldg. Inspection	Basis: City of Tracy FY 1991-92 budget				2.8	78	85	92	98	104	110	116	122	
Public Works/Engineering	Basis: City of Tracy FY 1991-92 budget				24.4	683	743	804	856	908	960	1,013	1,065	
Animal Control	Basis: City of Tracy FY 1991-92 budget				4.5	126	137	148	158	167	177	187	196	
Parks and Recreation														
o Park Maint. (per acre)	Basis: See Footnote 6 below					\$928	\$994	\$1,060	\$1,100	\$1,139	\$1,179	\$1,218	\$1,258	
o Recreation & Admin.	Basis: City of Tracy FY 1991-92 budget				6.4	179	195	211	225	238	252	266	279	
						=====	=====	=====	=====	=====	=====	=====	=====	=====
Total General Purpose Costs						\$14,228	\$15,474	\$16,720	\$17,776	\$18,833	\$19,889	\$20,945	\$22,002	
Programs Financed through Other Funds														

Fire Protection	Basis: City of Tracy FY 1991-92 budget				\$67.5	\$1,888	\$2,056	\$2,224	\$2,368	\$2,512	\$2,657	\$2,801	\$2,945	
Road Maintenance	Basis: See Footnote 7 below					555	604	653	697	741	785	828	872	
Library	Basis: County Library FY 1991-91 budget				\$12.6	353	384	415	442	469	496	523	550	

Table 9
Summary of Revenues and Expenditures (\$ 000's)
Mountain House New Town

ITEM	Fiscal Year Ending																	
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
General Purpose Programs																		
Revenues	\$1,775	\$3,327	\$4,866	\$6,169	\$7,496	\$8,821	\$10,146	\$11,474	\$12,756	\$14,056	\$15,364	\$16,681	\$18,010	\$19,053	\$20,140	\$21,246	\$22,371	\$23,516
Expenditures	1,411	2,822	4,233	5,484	6,736	7,987	9,238	10,489	11,736	12,982	14,228	15,474	16,720	17,776	18,833	19,889	20,945	22,002
Net Surplus (Deficit)	\$364	\$505	\$633	\$685	\$760	\$834	\$908	\$985	\$1,021	\$1,074	\$1,136	\$1,207	\$1,290	\$1,277	\$1,308	\$1,357	\$1,425	\$1,514
Fire Protection																		
Revenues	\$362	\$718	\$1,069	\$1,368	\$1,664	\$1,960	\$2,254	\$2,548	\$2,830	\$3,113	\$3,397	\$3,682	\$3,969	\$4,191	\$4,415	\$4,643	\$4,875	\$5,110
Expenditures	184	368	553	719	886	1,052	1,219	1,386	1,553	1,721	1,888	2,056	2,224	2,368	2,512	2,657	2,801	2,945
Net Surplus (Deficit)	\$178	\$349	\$516	\$648	\$779	\$907	\$1,035	\$1,162	\$1,277	\$1,392	\$1,509	\$1,626	\$1,746	\$1,823	\$1,903	\$1,987	\$2,074	\$2,164
Road Maintenance																		
Revenues	\$211	\$419	\$625	\$803	\$979	\$1,155	\$1,330	\$1,506	\$1,676	\$1,846	\$2,017	\$2,188	\$2,360	\$2,496	\$2,634	\$2,773	\$2,914	\$3,057
Expenditures	56	112	168	216	264	312	360	408	457	506	555	604	653	697	741	785	828	872
Net Surplus (Deficit)	\$155	\$307	\$457	\$587	\$715	\$843	\$970	\$1,097	\$1,218	\$1,340	\$1,461	\$1,584	\$1,707	\$1,799	\$1,893	\$1,989	\$2,086	\$2,185
Library																		
Revenues	\$96	\$190	\$283	\$363	\$441	\$520	\$598	\$676	\$750	\$825	\$901	\$976	\$1,052	\$1,111	\$1,171	\$1,231	\$1,293	\$1,355
Expenditures	34	69	103	134	165	196	228	259	290	321	353	384	415	442	469	496	523	550
Net Surplus (Deficit)	\$62	\$122	\$180	\$228	\$276	\$323	\$370	\$417	\$460	\$504	\$548	\$593	\$637	\$669	\$702	\$735	\$770	\$805

Note: Revenues are from Table 7, expenditures are from Table 8.

Table 10
Real Property Transfer Tax (\$000's)
Mountain House New Town

Description	Fiscal Year Ending											
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Rate per \$1,000 value	\$1.10											
Turnover rate	10.0%											
Percent of Transaction in Cash (resold homes)	95.0%											
Assessed Value from New Owner-Occupied Homes (\$ 000's)	\$220,040	\$233,243	\$247,237	\$232,674	\$246,634	\$261,432	\$277,118	\$293,745	\$300,531	\$318,563	\$337,677	\$357,938
Assessed Value from Turnover of Owner-Occupied Homes	0	23,324	48,608	76,070	102,830	131,989	163,784	198,467	236,305	276,440	320,231	367,998
Tax from Sale of New Residential Units (\$ 000's)	\$242	\$257	\$272	\$256	\$271	\$288	\$305	\$323	\$331	\$350	\$371	\$394
Tax from Turnover of Existing Residential Units (\$ 000's)	0	24	51	79	107	138	171	207	247	289	335	385
Real Property Transfer Tax (\$ 000's)	\$242	\$281	\$323	\$335	\$379	\$426	\$476	\$531	\$578	\$639	\$706	\$778

Note: Units built at low, medium and medium-high densities are assumed to be owner-occupied.

Table 10
Real Property Transfer Tax (\$000's)
Mountain House New Town

Description	2005	2006	2007	2008	2009	2010
Rate per \$1,000 value	\$1.10					
Turnover rate	10.0%					
Percent of Transaction in Cash (resold homes)	95.0%					
Assessed Value from New Owner-Occupied Homes (\$ 000's)	\$379,414	\$373,756	\$396,181	\$419,952	\$445,149	\$471,858
Assessed Value from Turnover of Owner-Occupied Homes	420,084	476,856	535,696	599,788	669,556	745,459
Tax from Sale of New Residential Units (\$ 000's)	\$417	\$411	\$436	\$462	\$490	\$519
Tax from Turnover of Existing Residential Units (\$ 000's)	439	498	560	627	700	779
Real Property Transfer Tax (\$ 000's)	\$856	\$909	\$996	\$1,089	\$1,189	\$1,298

Table 11
Road Miles
Mountain House New Town

	% Roads Per Acre	Fiscal Year Ending																	
		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Street Miles by Land Use																			

Residential	20.0%	4.1	8.3	12.4	16.0	19.6	23.2	26.8	30.4	34.1	37.8	41.5	45.2	48.9	52.3	55.7	59.1	62.5	65.9
Retail and Commercial	10.0%	0.3	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.4	2.7	2.9	3.1	3.3	3.4	3.5	3.6	3.7	3.8
Industrial	5.0%	0.2	0.4	0.6	0.8	0.9	1.1	1.2	1.4	1.6	1.8	1.9	2.1	2.3	2.4	2.5	2.7	2.8	2.9
Total Street Miles		4.7	9.3	14.0	18.0	22.0	26.0	30.0	34.0	38.1	42.2	46.3	50.4	54.4	58.1	61.7	65.4	69.0	72.7

Note: Assumes the average street has a width of 60 feet.

Table 1
General Assumptions
Mountain House New Town

General		Existing Conditions	
-----		-----	
Year Development Starts	1993	Dwelling Units (Occupied)	NA
Year of Analysis	1991	Assessed Value	NA
Appreciation Rate	6.0%	Road Miles (center line)	NA
Inflation Rate	5.0%	Countywide Population	490,008 DOF, 1991
Legislated Tax Escalation Rate	2.0%	Unincorporated Population	125,573 DOF, 1991
Property Turnover Rates (% per year)		Public Buildings	NA
o Residential	10.0%	Park/Landscaped Area Acres	NA
o Nonresidential	0.0%	Park Acres Only	NA

Table 2
Land Use Assumptions
Mountain House New Town

Land Use	Descriptive Units	Value per Acre or Unit (1)	Real Market Appreciation Rate	Turnover Rate (2)	Demographics		
					Persons per DU	Children per DU	Employees per Acre
Low Density Residential	unit	\$229,000	6.0%	10.0%	3.1	0.0	0
Medium Density Res.	unit	\$189,000	6.0%	10.0%	2.7	0.0	0
Med.-High Density Res.	unit	\$169,000	6.0%	10.0%	2.0	0.0	0
High Density Res.	unit	\$83,000	6.0%	0.0%	2.0	0.0	0
Community Commercial	acre	\$2,090,000	6.0%	0.0%	0.0	0.0	24
Town Center	acre	\$2,600,000	6.0%	0.0%	0.0	0.0	51
Neighborhood Comm.	acre	\$2,030,000	6.0%	0.0%	0.0	0.0	24
General Commercial	acre	\$2,060,000	6.0%	0.0%	0.0	0.0	24
Freeway Service	acre	\$1,800,000	6.0%	0.0%	0.0	0.0	24
Office Commercial	acre	\$2,600,000	6.0%	0.0%	0.0	0.0	44
Limited Industrial	acre	\$650,000	6.0%	0.0%	0.0	0.0	26
General Industrial	acre	\$580,000	6.0%	0.0%	0.0	0.0	14
Neighborhood Parks	acre	NA	NA	NA	NA	NA	NA
Community Parks	acre	NA	NA	NA	NA	NA	NA
Regional Parks	acre	NA	NA	NA	NA	NA	NA
Resource Conservation	acre	NA	NA	NA	NA	NA	NA

NA - not applicable

(1) Per dwelling unit for residential uses and per acre for nonresidential uses.

(2) See text for additional information regarding turnover assumptions.

Sources: Trimark Communities; Baseline Environmental Consulting; Economic and Planning Systems, Inc.

Table 3
Annual Development Schedule (Units and Acres)
Mountain House New Town

Land Use	Fiscal Year Ending																			Total
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010		
Residential																				

Low Density Residential																				
Units	315	315	315	258	258	258	258	258	302	302	302	302	302	332	332	332	332	332	332	5,409
Acres	70	70	70	57	57	57	57	57	67	67	67	67	67	74	74	74	74	74	74	1,202
Medium Density Res.																				
Units	608	608	608	442	442	442	442	442	446	446	446	446	446	339	339	339	339	339	339	7,960
Acres	76	76	76	55	55	55	55	55	56	56	56	56	56	42	42	42	42	42	42	995
Med.-High Density Res.																				
Units	52	52	52	185	185	185	185	185	84	84	84	84	84	94	94	94	94	94	94	1,968
Acres	4	4	4	15	15	15	15	15	7	7	7	7	7	8	8	8	8	8	8	164
High Density Res.																				
Units	0	0	0	50	50	50	50	50	83	83	83	83	83	0	0	0	0	0	0	666
Acres	0	0	0	3	3	3	3	3	5	5	5	5	5	0	0	0	0	0	0	37
Commercial																				

Community Commercial (acres)	2	2	2	3	3	3	3	3	1	1	1	1	1	0	0	0	0	0	0	25
Town Center (acres)	2	2	2	1	1	1	1	1	2	2	2	2	2	0	0	0	0	0	0	17
Neighborhood Comm. (acres)	1	1	1	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	19
General Commercial (acres)	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	14
Freeway Service (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	11
Office Commercial (acres)	3	3	3	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	24
Industrial																				

Limited Industrial (acres)	6	6	6	7	7	7	7	7	8	8	8	8	8	6	6	6	6	6	6	127
General Industrial (acres)	5	5	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	44
Parks and Open Space																				

Neighborhood Parks (acres)	3	3	3	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	62
Community Parks (acres)	16	16	16	5	5	5	5	5	8	8	8	8	8	4	4	4	4	4	4	129
Regional Parks (acres)	0	0	0	14	14	14	14	14	0	0	0	0	0	0	0	0	0	0	0	70
Resource Conservation (acres)	13	13	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40

Source: Trimark Communities; Baseline Environmental Consulting; Economic and Planning Systems, Inc.

Table 4a
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Market Value of New Units											
Low Density Residential	\$81,051	\$85,914	\$91,069	\$79,188	\$83,939	\$88,975	\$94,314	\$99,973	\$124,015	\$131,456	\$139,344
Medium Density Res.	129,115	136,862	145,074	111,692	118,393	125,497	133,026	141,008	151,093	160,159	169,768
Med.-High Density Res.	9,874	10,467	11,095	41,794	44,302	46,960	49,778	52,764	25,423	26,948	28,565
High Density Res.	0	0	0	5,598	5,934	6,290	6,667	7,067	12,307	13,046	13,829
Community Commercial	4,697	4,978	5,277	7,160	7,590	8,045	8,528	9,039	4,491	4,761	5,047
Town Center	5,843	6,193	6,565	1,948	2,065	2,189	2,321	2,460	7,822	8,292	8,789
Neighborhood Comm.	3,041	3,224	3,417	1,521	1,613	1,709	1,812	1,921	5,817	6,166	6,536
General Commercial	3,703	3,926	4,161	5,293	5,611	5,947	6,304	6,682	0	0	0
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	7,401	7,845	8,316	6,124	6,491	6,881	7,293	7,731	7,077	7,502	7,952
Limited Industrial	4,674	4,955	5,252	6,472	6,860	7,272	7,708	8,170	9,312	9,871	10,463
General Industrial	3,476	3,684	3,905	1,428	1,514	1,605	1,701	1,803	2,244	2,378	2,521
Total	\$252,875	\$268,047	\$284,130	\$268,218	\$284,311	\$301,370	\$319,452	\$338,619	\$349,603	\$370,579	\$392,814
Assessed Value of Previously Built Units											
Low Density Residential	\$0	\$82,996	\$173,273	\$271,626	\$361,138	\$458,915	\$565,749	\$682,488	\$810,039	\$967,852	\$1,140,114
Medium Density Res.	0	\$132,214	\$276,026	\$432,703	\$560,495	\$700,154	\$852,801	\$1,019,635	\$1,201,942	\$1,402,761	\$1,622,053
Med.-High Density Res.	0	\$10,111	\$21,109	\$33,091	\$76,915	\$124,634	\$176,658	\$233,428	\$295,412	\$331,869	\$371,833
High Density Res.	0	0	0	0	5,710	11,877	18,530	25,702	33,424	46,646	60,886
Community Commercial	0	4,791	9,964	15,546	23,161	31,365	40,198	49,701	59,915	65,694	71,864
Town Center	0	5,960	12,396	19,340	21,714	24,255	26,973	29,880	32,987	41,625	50,915
Neighborhood Comm.	0	3,102	6,452	10,067	11,820	13,701	15,719	17,881	20,198	26,535	33,354
General Commercial	0	3,777	7,857	12,259	17,903	23,983	30,529	37,570	45,137	46,040	46,961
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	0	7,549	15,701	24,497	31,233	38,479	46,267	54,632	63,610	72,101	81,195
Limited Industrial	0	4,768	9,917	15,472	22,383	29,827	37,841	46,460	55,723	66,336	77,731
General Industrial	0	3,545	7,374	11,505	13,192	15,000	16,936	19,010	21,229	23,942	26,847
Total	\$0	\$258,812	\$540,071	\$846,107	\$1,145,663	\$1,472,191	\$1,828,202	\$2,216,386	\$2,639,614	\$3,091,402	\$3,583,754

Table 4a
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	2004	2005	2006	2007	2008	2009	2010
Market Value of New Units							
Low Density Residential	\$147,704	\$156,567	\$182,206	\$193,138	\$204,726	\$217,010	\$230,030
Medium Density Res.	179,954	190,752	153,640	162,859	172,630	182,988	193,968
Med.-High Density Res.	30,279	32,096	37,910	40,184	42,595	45,151	47,860
High Density Res.	14,658	15,538	0	0	0	0	0
Community Commercial	5,349	5,670	0	0	0	0	0
Town Center	9,317	9,876	0	0	0	0	0
Neighborhood Comm.	6,928	7,343	3,892	4,126	4,373	4,635	4,914
General Commercial	0	0	0	0	0	0	0
Freeway Service	0	0	9,318	9,877	10,470	11,098	11,764
Office Commercial	8,429	8,935	0	0	0	0	0
Limited Industrial	11,091	11,757	9,471	10,039	10,642	11,280	11,957
General Industrial	2,672	2,832	2,224	2,357	2,499	2,649	2,808
Total	\$416,383	\$441,366	\$398,661	\$422,580	\$447,935	\$474,811	\$503,300
Assessed Value of Previously Built Units							
Low Density Residential	\$1,328,117	\$1,533,251	\$1,757,002	\$2,017,601	\$2,301,584	\$2,610,946	\$2,947,830
Medium Density Res.	\$1,861,418	\$2,122,572	\$2,407,358	\$2,668,034	\$2,952,082	\$3,261,307	\$3,597,649
Med.-High Density Res.	\$415,580	\$463,403	\$515,620	\$576,557	\$642,949	\$715,233	\$793,876
High Density Res.	76,209	92,685	110,387	112,595	114,847	117,144	119,486
Community Commercial	78,449	85,475	92,968	94,827	96,724	98,658	100,631
Town Center	60,899	71,620	83,125	84,788	86,483	88,213	89,977
Neighborhood Comm.	40,688	48,568	57,029	62,140	67,591	73,403	79,599
General Commercial	47,900	48,858	49,835	50,832	51,848	52,885	53,943
Freeway Service	0	0	0	9,504	19,769	30,843	42,779
Office Commercial	90,930	101,347	112,488	114,737	117,032	119,373	121,760
Limited Industrial	89,958	103,071	117,124	129,127	141,950	155,643	170,262
General Industrial	29,955	33,280	36,835	39,840	43,041	46,451	50,082
Total	\$4,120,103	\$4,704,128	\$5,339,772	\$5,960,582	\$6,635,900	\$7,370,099	\$8,167,876

Table 4b
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Assessed Value											

Low Density Residential	\$81,051	\$168,910	\$264,342	\$350,813	\$445,077	\$547,890	\$660,063	\$782,460	\$934,054	\$1,099,309	\$1,279,457
Medium Density Res.	129,115	269,076	421,100	544,395	678,888	825,651	985,828	1,160,643	1,353,035	1,562,920	1,791,821
Med.-High Density Res.	9,874	20,578	32,204	74,886	121,217	171,594	226,436	286,193	320,834	358,817	400,399
High Density Res.	0	0	0	5,598	11,644	18,167	25,198	32,769	45,732	59,692	74,715
Community Commercial	4,697	9,769	15,242	22,706	30,750	39,410	48,726	58,740	64,406	70,455	76,911
Town Center	5,843	12,153	18,961	21,288	23,780	26,444	29,294	32,340	40,809	49,917	59,705
Neighborhood Comm.	3,041	6,326	9,869	11,588	13,432	15,410	17,530	19,802	26,014	32,700	39,890
General Commercial	3,703	7,703	12,018	17,552	23,513	29,931	36,833	44,252	45,137	46,040	46,961
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	7,401	15,394	24,017	30,621	37,725	45,360	53,560	62,363	70,687	79,603	89,147
Limited Industrial	4,674	9,722	15,169	21,944	29,242	37,099	45,549	54,630	65,035	76,207	88,194
General Industrial	3,476	7,229	11,279	12,933	14,705	16,604	18,637	20,813	23,473	26,321	29,368
Total	\$252,875	\$526,860	\$824,201	\$1,114,324	\$1,429,974	\$1,773,560	\$2,147,654	\$2,555,005	\$2,989,217	\$3,461,981	\$3,976,568

Note: This table represents the sum of the columns in Table 4a.

Table 4b
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	2004	2005	2006	2007	2008	2009	2010
Total Assessed Value							
Low Density Residential	\$1,475,822	\$1,689,818	\$1,939,208	\$2,210,739	\$2,506,310	\$2,827,956	\$3,177,860
Medium Density Res.	2,041,372	2,313,323	2,560,999	2,830,893	3,124,713	3,444,295	3,791,617
Med.-High Density Res.	445,859	495,499	553,530	616,741	685,545	760,384	841,736
High Density Res.	90,867	108,223	110,387	112,595	114,847	117,144	119,486
Community Commercial	83,799	91,145	92,968	94,827	96,724	98,658	100,631
Town Center	70,215	81,495	83,125	84,788	86,483	88,213	89,977
Neighborhood Comm.	47,615	55,911	60,921	66,265	71,964	78,038	84,513
General Commercial	47,900	48,858	49,835	50,832	51,848	52,885	53,943
Freeway Service	0	0	9,318	19,381	30,238	41,941	54,543
Office Commercial	99,360	110,282	112,488	114,737	117,032	119,373	121,760
Limited Industrial	101,050	114,827	126,595	139,166	152,592	166,924	182,219
General Industrial	32,627	36,112	39,059	42,197	45,540	49,100	52,889
Total	\$4,536,486	\$5,145,493	\$5,738,432	\$6,383,162	\$7,083,835	\$7,844,910	\$8,671,176

Table 5
Property Tax (\$ 000's)
Mountain House New Town

Item	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Assessed Value (Nominal Dolars)	\$252,875	\$526,860	\$824,201	\$1,114,324	\$1,429,974	\$1,773,560	\$2,147,654	\$2,555,005	\$2,989,217	\$3,461,981	\$3,976,568
Assessed Value (Constant 1991 Dollars)	229,365	455,121	678,072	873,102	1,067,069	1,260,436	1,453,617	1,646,979	1,835,120	2,024,148	2,214,302
Property Tax (@ 1% of Assessed Value)	\$2,294	\$4,551	\$6,781	\$8,731	\$10,671	\$12,604	\$14,536	\$16,470	\$18,351	\$20,241	\$22,143
Allocation of Tax by Fund (Constant \$'s)											
County General Fund	45.0%	\$1,032	\$2,048	\$3,051	\$3,929	\$4,802	\$5,672	\$6,541	\$7,411	\$8,258	\$9,109
Road Fund	6.2%	142	282	420	541	662	781	901	1,021	1,138	1,255
Library Fund	3.5%	80	159	237	306	373	441	509	576	642	708
Fire District	13.2%	303	601	895	1,152	1,409	1,664	1,919	2,174	2,422	2,672
Other Agencies (1)	32.1%	736	1,461	2,177	2,803	3,425	4,046	4,666	5,287	5,891	6,498
Total	100.0%	\$2,294	\$4,551	\$6,781	\$8,731	\$10,671	\$12,604	\$14,536	\$16,470	\$18,351	\$20,241

Note: the Mountain House site falls within three Tax Rate Areas; the tax allocation factors noted above represent approximate averages.

(1) Other agencies include Delta Community College, Tracy Cemetery District, County Flood Control, Mosquito Abatement District, Westside Irrigation District, County Office of Education, Lammersville Elementary School District, and the Tracy High School District.

Table 5
Property Tax (\$ 000's)
Mountain House New Town

Item		2004	2005	2006	2007	2008	2009	2010
Assessed Value (Nominal Dolars)		\$4,536,486	\$5,145,493	\$5,738,432	\$6,383,162	\$7,083,835	\$7,844,910	\$8,671,176
Assessed Value (Constant 1991 Dollars)		2,405,795	2,598,824	2,760,284	2,924,200	3,090,654	3,259,722	3,431,479
Property Tax (@ 1% of Assessed Value)		\$24,058	\$25,988	\$27,603	\$29,242	\$30,907	\$32,597	\$34,315
Allocation of Tax by Fund (Constant \$'s)								
County General Fund	45.0%	\$10,826	\$11,695	\$12,421	\$13,159	\$13,908	\$14,669	\$15,442
Road Fund	6.2%	1,492	1,611	1,711	1,813	1,916	2,021	2,128
Library Fund	3.5%	842	910	966	1,023	1,082	1,141	1,201
Fire District	13.2%	3,176	3,430	3,644	3,860	4,080	4,303	4,530
Other Agencies (1)	32.1%	7,723	8,342	8,861	9,387	9,921	10,464	11,015
Total	100.0%	\$24,058	\$25,988	\$27,603	\$29,242	\$30,907	\$32,597	\$34,315

Table 6
Resident Population by Land Use
Mountain House New Town

Land Use	Fiscal Year Ending																		
	Total	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Low Density Residential	16,876	983	983	983	806	806	806	806	806	943	943	943	943	943	1,036	1,036	1,036	1,036	1,036
Medium Density Res.	21,492	1,642	1,642	1,642	1,192	1,192	1,192	1,192	1,192	1,205	1,205	1,205	1,205	1,205	916	916	916	916	916
Med.-High Density Res.	3,936	104	104	104	370	370	370	370	370	168	168	168	168	168	187	187	187	187	187
High Density Res.	1,332	0	0	0	101	101	101	101	101	166	166	166	166	166	0	0	0	0	0
Community Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Town Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Neighborhood Comm.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freeway Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limited Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Total	43,636	2,728	2,728	2,728	2,469	2,469	2,469	2,469	2,469	2,482	2,482	2,482	2,482	2,482	2,139	2,139	2,139	2,139	2,139
Cumulative Total		2,728	5,457	8,185	10,654	13,123	15,592	18,061	20,530	23,012	25,495	27,977	30,459	32,942	35,081	37,219	39,358	41,497	43,636

Table 7
Annual Revenues (\$ 000's)
Mountain House New Town

ITEM	1991-92 Approved Revenues	Percent of Total Revenues	Estimating Procedure	Per Capita Multiplier Based on Budget	Fiscal Year Ending											
					1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
General Purpose Revenues																
Property Tax	\$84,600	66.0%	See Table 5		\$1,032	\$2,048	\$3,051	\$3,929	\$4,802	\$5,672	\$6,541	\$7,411	\$8,258	\$9,109	\$9,964	\$10,826
State-shared Revenue	26,100	20.4%	Per Capita	\$53.26	145	291	436	567	699	830	962	1,094	1,226	1,358	1,490	1,622
Sales Taxes	7,200	5.6%	Per Capita (1)	\$42	115	229	344	447	551	655	759	862	967	1,071	1,175	1,279
Document Transfer Taxes	3,100	2.4%	See Table 10		242	281	323	335	379	426	476	531	578	639	706	778
Other Revenues	7,200	5.6%	Per Capita	\$14.69	40	80	120	157	193	229	265	302	338	375	411	448
Total General Purpose Rev.	128,200	100.0%			\$1,574	\$2,929	\$4,274	\$5,436	\$6,624	\$7,812	\$9,003	\$10,199	\$11,366	\$12,551	\$13,747	\$14,954
Other Funds																
Fire Protection (property taxes only)			See Table 5		\$303	\$601	\$895	\$1,152	\$1,409	\$1,664	\$1,919	\$2,174	\$2,422	\$2,672	\$2,923	\$3,176
Road Fund - Maintenance																
o Property Taxes (Road District)			See Table 5		\$142	\$282	\$420	\$541	\$662	\$781	\$901	\$1,021	\$1,138	\$1,255	\$1,373	\$1,492
o Gas Taxes \$6,683			Per Capita	\$13.64	37	74	112	145	179	213	246	280	314	348	382	415
o Fines and Forfeitures \$691			Per Capita	\$1.41	4	8	12	15	18	22	25	29	32	36	39	43
Total - Road Fund					\$183	\$364	\$544	\$702	\$859	\$1,016	\$1,173	\$1,330	\$1,484	\$1,639	\$1,794	\$1,950
Library (property taxes only)			See Table 5		\$80	\$159	\$237	\$306	\$373	\$441	\$509	\$576	\$642	\$708	\$775	\$842

(1) Represents per capita taxable sales of approximately \$4,000 per year, and a sales tax rate of 1.05 percent (the 0.05 percent comprises unallocated taxable sales).

Table 7
Annual Revenues (\$ 000's)
Mountain House New Town

ITEM	1991-92 Approved Revenues	Percent of Total Revenues	Estimating Procedure	Per Capita Multiplier Based on Budget	2005	2006	2007	2008	2009	2010
General Purpose Revenues										
Property Tax	\$84,600	66.0%	See Table 5		\$11,695	\$12,421	\$13,159	\$13,908	\$14,669	\$15,442
State-shared Revenue	26,100	20.4%	Per Capita	\$53.26	1,755	1,869	1,982	2,096	2,210	2,324
Sales Taxes	7,200	5.6%	Per Capita (1)	\$42	1,384	1,473	1,563	1,653	1,743	1,833
Document Transfer Taxes	3,100	2.4%	See Table 10		856	909	996	1,089	1,189	1,298
Other Revenues	7,200	5.6%	Per Capita	\$14.69	484	515	547	578	610	641
Total General Purpose Rev.	128,200	100.0%			\$16,173	\$17,188	\$18,247	\$19,324	\$20,421	\$21,538
Other Funds										
Fire Protection (property taxes only)			See Table 5		\$3,430	\$3,644	\$3,860	\$4,080	\$4,303	\$4,530
Road Fund - Maintenance										
o Property Taxes (Road District)			See Table 5		\$1,611	\$1,711	\$1,813	\$1,916	\$2,021	\$2,128
o Gas Taxes	\$6,683		Per Capita	\$13.64	449	478	508	537	566	595
o Fines and Forfeitures	\$691		Per Capita	\$1.41	46	49	52	55	58	61
Total - Road Fund					\$2,107	\$2,239	\$2,373	\$2,508	\$2,645	\$2,784
Library (property taxes only)			See Table 5		\$910	\$966	\$1,023	\$1,082	\$1,141	\$1,201

Table 8
Expenditures for Services (\$ 000's)
Mountain House New Town

DEPARTMENT	1991-92 Total Net County Cost (NCC)	Cost Bases for NCC				Fiscal Year Ending									
		Countywide Population	Unincorp. Population	Not Allocated	Cost Multiplier	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Countywide Programs															
General Government	\$19,304	\$15,466	\$0	\$3,838	\$31.6	\$86	\$172	\$258	\$336	\$414	\$492	\$570	\$648	\$726	\$805
Capital Maint. & Improvment	\$4,627	\$4,177	\$450	\$0	12.1	33	66	99	129	159	189	219	249	279	309
Environmental Protection (1)	\$4,642	\$495	\$106	\$4,041	1.9	5	10	15	20	24	29	33	38	43	47
Law and Justice (2)	\$74,000	\$59,966	\$4,534	\$9,500	158.5	432	865	1,297	1,688	2,080	2,471	2,862	3,254	3,647	4,040
Roads and Facilities (3)	\$491	\$93	\$0	\$398	0.2	1	1	2	2	2	3	3	4	4	5
Health Services	\$17,965	\$17,965	\$0	\$0	36.7	100	200	300	391	481	572	662	753	844	935
Human Services	\$20,843	\$20,843	\$0	\$0	42.5	116	232	348	453	558	663	768	873	979	1,084
Education	\$1,173	\$841	\$0	\$332	1.7	5	9	14	18	23	27	31	35	40	44
Parks and Recreation (4)	\$2,266	\$177	\$139	\$1,951	1.5	4	8	12	16	19	23	26	30	34	37
Urban Programs															
Law Enforcement															
o Patrol	Basis: see Footnote 5 below				\$116.4	\$318	\$635	\$953	\$1,240	\$1,528	\$1,815	\$2,102	\$2,390	\$2,679	\$2,968
o Detectives, Traffic	Basis: City of Tracy FY 1991-92 budget				11.7	32	64	96	125	154	182	211	240	269	298
Administration/Finance	Basis: City of Tracy FY 1991-92 budget				22.6	62	123	185	241	297	352	408	464	520	576
Planning/Bldg. Inspection	Basis: City of Tracy FY 1991-92 budget				2.8	8	15	23	30	37	44	51	57	64	71
Public Works/Engineering	Basis: City of Tracy FY 1991-92 budget				24.4	67	133	200	260	320	380	441	501	561	622
Animal Control	Basis: City of Tracy FY 1991-92 budget				4.5	12	25	37	48	59	70	81	92	104	115
Parks and Recreation															
o Park Maint. (per acre)	Basis: See Footnote 6 below					\$114	\$228	\$342	\$420	\$497	\$575	\$652	\$730	\$796	\$862
o Recreation & Admin.	Basis: City of Tracy FY 1991-92 budget				6.4	17	35	52	68	84	100	116	131	147	163
Total General Purpose Costs						\$1,411	\$2,822	\$4,233	\$5,484	\$6,736	\$7,987	\$9,238	\$10,489	\$11,736	\$12,982
Programs Financed through Other Funds															
Fire Protection	Basis: City of Tracy FY 1991-92 budget				\$67.5	\$184	\$368	\$553	\$719	\$886	\$1,052	\$1,219	\$1,386	\$1,553	\$1,721
Road Maintenance	Basis: See Footnote 7 below					52	104	156	202	247	292	337	382	428	475
Library	Basis: County Library FY 1991-91 budget				\$12.6	34	69	103	134	165	196	228	259	290	321

Notes:

- (1) Excludes Community Development expenditures.
- (2) Excludes expenditures for Patrol and Investigation (detective) functions.
- (3) Represents expenditures not allocated to Road Fund.
- (4) Represents expenditures for litter control only.
- (5) At the request of the County, Mountain House is assumed to require 1.5 patrol officers per 1,000 population. Annual costs per deputy is \$77,600 .
- (6) Maintenance costs for neighborhood/community parks average \$6,000 per acre (based on average costs for other communities in the Central Valley).
Maintenance costs for regional parks are assumed to average \$1,600 per year (based on similar expenditures in the Bay Area, and on County experience).
- (7) Road maintenance costs are assumed to average \$12,000 per street mile. Street miles are presented in Table 11.

Table 8
Expenditures for Services (\$ 000's)
Mountain House New Town

DEPARTMENT	1991-92 Total Net County Cost (NCC)	Cost Bases for NCC				Cost Multiplier	2003	2004	2005	2006	2007	2008	2009	2010
		Countywide Population	Unincorp. Population	Not Allocated										
Countywide Programs														
General Government	\$19,304	\$15,466	\$0	\$3,838	\$31.6	\$883	\$961	\$1,040	\$1,107	\$1,175	\$1,242	\$1,310	\$1,377	
Capital Maint. & Improvment	\$4,627	\$4,177	\$450	\$0	12.1	339	369	399	425	451	477	502	528	
Environmental Protection (1)	\$4,642	\$495	\$106	\$4,041	1.9	52	56	61	65	69	73	77	81	
Law and Justice (2)	\$74,000	\$59,966	\$4,534	\$9,500	158.5	4,434	4,827	5,221	5,560	5,899	6,238	6,577	6,916	
Roads and Facilities (3)	\$491	\$93	\$0	\$398	0.2	5	6	6	7	7	7	8	8	
Health Services	\$17,965	\$17,965	\$0	\$0	36.7	1,026	1,117	1,208	1,286	1,365	1,443	1,521	1,600	
Human Services	\$20,843	\$20,843	\$0	\$0	42.5	1,190	1,296	1,401	1,492	1,583	1,674	1,765	1,856	
Education	\$1,173	\$841	\$0	\$332	1.7	48	52	57	60	64	68	71	75	
Parks and Recreation (4)	\$2,266	\$177	\$139	\$1,951	1.5	41	45	48	51	55	58	61	64	
Urban Programs														
Law Enforcement														
o Patrol	Basis: see Footnote 5 below				\$116.4	\$3,257	\$3,545	\$3,834	\$4,083	\$4,332	\$4,581	\$4,830	\$5,079	
o Detectives, Traffic	Basis: City of Tracy FY 1991-92 budget				11.7	327	356	385	410	435	460	486	511	
Administration/Finance	Basis: City of Tracy FY 1991-92 budget				22.6	632	688	744	793	841	889	938	986	
Planning/Bldg. Inspection	Basis: City of Tracy FY 1991-92 budget				2.8	78	85	92	98	104	110	116	122	
Public Works/Engineering	Basis: City of Tracy FY 1991-92 budget				24.4	683	743	804	856	908	960	1,013	1,065	
Animal Control	Basis: City of Tracy FY 1991-92 budget				4.5	126	137	148	158	167	177	187	196	
Parks and Recreation														
o Park Maint. (per acre)	Basis: See Footnote 6 below					\$928	\$994	\$1,060	\$1,100	\$1,139	\$1,179	\$1,218	\$1,258	
o Recreation & Admin.	Basis: City of Tracy FY 1991-92 budget				6.4	179	195	211	225	238	252	266	279	
						=====	=====	=====	=====	=====	=====	=====	=====	=====
Total General Purpose Costs						\$14,228	\$15,474	\$16,720	\$17,776	\$18,833	\$19,889	\$20,945	\$22,002	
Programs Financed through Other Funds														
Fire Protection	Basis: City of Tracy FY 1991-92 budget				\$67.5	\$1,888	\$2,056	\$2,224	\$2,368	\$2,512	\$2,657	\$2,801	\$2,945	
Road Maintenance	Basis: See Footnote 7 below					521	567	613	655	697	740	782	824	
Library	Basis: County Library FY 1991-91 budget				\$12.6	353	384	415	442	469	496	523	550	

Table 9
Summary of Revenues and Expenditures (\$ 000's)
Mountain House New Town

ITEM	Fiscal Year Ending																	
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
General Purpose Programs																		
Revenues	\$1,574	\$2,929	\$4,274	\$5,436	\$6,624	\$7,812	\$9,003	\$10,199	\$11,366	\$12,551	\$13,747	\$14,954	\$16,173	\$17,188	\$18,247	\$19,324	\$20,421	\$21,538
Expenditures	1,411	2,822	4,233	5,484	6,736	7,987	9,238	10,489	11,736	12,982	14,228	15,474	16,720	17,776	18,833	19,889	20,945	22,002
Net Surplus (Deficit)	\$163	\$107	\$41	(\$48)	(\$112)	(\$175)	(\$235)	(\$290)	(\$370)	(\$430)	(\$481)	(\$520)	(\$547)	(\$588)	(\$585)	(\$564)	(\$524)	(\$464)
Fire Protection																		
Revenues	\$303	\$601	\$895	\$1,152	\$1,409	\$1,664	\$1,919	\$2,174	\$2,422	\$2,672	\$2,923	\$3,176	\$3,430	\$3,644	\$3,860	\$4,080	\$4,303	\$4,530
Expenditures	184	368	553	719	886	1,052	1,219	1,386	1,553	1,721	1,888	2,056	2,224	2,368	2,512	2,657	2,801	2,945
Net Surplus (Deficit)	\$119	\$232	\$343	\$433	\$523	\$611	\$700	\$788	\$869	\$951	\$1,034	\$1,120	\$1,207	\$1,276	\$1,348	\$1,423	\$1,502	\$1,584
Road Maintenance																		
Revenues	\$183	\$364	\$544	\$702	\$859	\$1,016	\$1,173	\$1,330	\$1,484	\$1,639	\$1,794	\$1,950	\$2,107	\$2,239	\$2,373	\$2,508	\$2,645	\$2,784
Expenditures	52	104	156	202	247	292	337	382	428	475	521	567	613	655	697	740	782	824
Net Surplus (Deficit)	\$131	\$260	\$387	\$500	\$612	\$724	\$836	\$948	\$1,056	\$1,164	\$1,273	\$1,383	\$1,494	\$1,584	\$1,676	\$1,769	\$1,864	\$1,961
Library																		
Revenues	\$80	\$159	\$237	\$306	\$373	\$441	\$509	\$576	\$642	\$708	\$775	\$842	\$910	\$966	\$1,023	\$1,082	\$1,141	\$1,201
Expenditures	34	69	103	134	165	196	228	259	290	321	353	384	415	442	469	496	523	550
Net Surplus (Deficit)	\$46	\$91	\$134	\$171	\$208	\$245	\$281	\$318	\$352	\$387	\$422	\$458	\$495	\$524	\$555	\$586	\$618	\$651

Note: Revenues are from Table 7, expenditures are from Table 8.

Table 10
Real Property Transfer Tax (\$000's)
Mountain House New Town

Description	Fiscal Year Ending											
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Rate per \$1,000 value	\$1.10											
Turnover rate	10.0%											
Percent of Transaction in Cash (resold homes)	95.0%											
Assessed Value from New Owner-Occupied Homes (\$ 000's)	\$220,040	\$233,243	\$247,237	\$232,674	\$246,634	\$261,432	\$277,118	\$293,745	\$300,531	\$318,563	\$337,677	\$357,938
Assessed Value from Turnover of Owner-Occupied Homes	0	23,324	48,608	76,070	102,830	131,989	163,784	198,467	236,305	276,440	320,231	367,998
Tax from Sale of New Residential Units (\$ 000's)	\$242	\$257	\$272	\$256	\$271	\$288	\$305	\$323	\$331	\$350	\$371	\$394
Tax from Turnover of Existing Residential Units (\$ 000's)	0	24	51	79	107	138	171	207	247	289	335	385
Real Property Transfer Tax (\$ 000's)	\$242	\$281	\$323	\$335	\$379	\$426	\$476	\$531	\$578	\$639	\$706	\$778

Note: Units built at low, medium and medium-high densities are assumed to be owner-occupied.

Table 10
Real Property Transfer Tax (\$000's)
Mountain House New Town

Description	2005	2006	2007	2008	2009	2010
Rate per \$1,000 value	\$1.10					
Turnover rate	10.0%					
Percent of Transaction in Cash (resold homes)	95.0%					
Assessed Value from New Owner-Occupied Homes (\$ 000's)	\$379,414	\$373,756	\$396,181	\$419,952	\$445,149	\$471,858
Assessed Value from Turnover of Owner-Occupied Homes	420,084	476,856	535,696	599,788	669,556	745,459
Tax from Sale of New Residential Units (\$ 000's)	\$417	\$411	\$436	\$462	\$490	\$519
Tax from Turnover of Existing Residential Units (\$ 000's)	439	498	560	627	700	779
Real Property Transfer Tax (\$ 000's)	\$856	\$909	\$996	\$1,089	\$1,189	\$1,298

Table 11
Road Miles
Mountain House New Town

	% Roads Per Acre	Fiscal Year Ending																	
		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Street Miles by Land Use																			

Residential	20.0%	4.1	8.3	12.4	16.0	19.6	23.2	26.8	30.4	34.1	37.8	41.5	45.2	48.9	52.3	55.7	59.1	62.5	65.9
Retail and Commercial	10.0%	0.1	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.3	1.4	1.4	1.5	1.5
Industrial	5.0%	0.1	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.1	1.2
Total Street Miles		4.3	8.7	13.0	16.8	20.6	24.3	28.1	31.8	35.7	39.6	43.4	47.3	51.1	54.6	58.1	61.6	65.1	68.6

Note: Assumes the average street has a width of 60 feet.

Table 1
General Assumptions

General		Existing Conditions	
Year Development Starts	1993	Dwelling Units (Occupied)	NA
Year of Analysis	1991	Assessed Value	NA
Appreciation Rate	6.0%	Road Miles (center line)	NA
Inflation Rate	5.0%	Countywide Population	490,008 DOF, 1991
Legislated Tax Escalation Rate	2.0%	Unincorporated Population	125,573 DOF, 1991
Property Turnover Rates (% per year)		Public Buildings	NA
o Residential	14%	Park/Landscaped Area Acre	NA
o Nonresidential	7%	Park Acres Only	NA

Table 2
Land Use Assumptions
Mountain House New Town

Land Use	Descriptive Units	Value per Acre or Unit (1)	Real Market Appreciation Rate	Turnover Rate (2)	Demographics		
					Persons per DU	Children per DU	Employees per Acre
Low Density Residential	unit	\$229,000	1.0%	14.3%	3.1	0.0	0
Medium Density Res.	unit	\$189,000	1.0%	14.3%	2.7	0.0	0
Med.-High Density Res.	unit	\$169,000	1.0%	14.3%	2.0	0.0	0
High Density Res.	unit	\$83,000	1.0%	6.7%	2.0	0.0	0
Community Commercial	acre	\$2,090,000	0.0%	6.7%	0.0	0.0	24
Town Center	acre	\$2,600,000	0.0%	6.7%	0.0	0.0	51
Neighborhood Comm.	acre	\$2,030,000	0.0%	6.7%	0.0	0.0	24
General Commercial	acre	\$2,060,000	0.0%	6.7%	0.0	0.0	24
Freeway Service	acre	\$1,800,000	0.0%	6.7%	0.0	0.0	24
Office Commercial	acre	\$2,600,000	0.0%	6.7%	0.0	0.0	44
Limited Industrial	acre	\$650,000	0.0%	6.7%	0.0	0.0	26
General Industrial	acre	\$580,000	0.0%	6.7%	0.0	0.0	14
Neighborhood Parks	acre	NA	NA	NA	NA	NA	NA
Community Parks	acre	NA	NA	NA	NA	NA	NA
Regional Parks	acre	NA	NA	NA	NA	NA	NA
Resource Conservation	acre	NA	NA	NA	NA	NA	NA

NA - not applicable

(1) Per dwelling unit for residential uses and per acre for nonresidential uses.

(2) See text for additional information regarding turnover assumptions.

Sources: Trimark Communities; Baseline Environmental Consulting; Economic and Planning Systems, Inc.

Table 3
Annual Development Schedule (Units and Acres)
Mountain House New Town

Land Use	Fiscal Year Ending																		Total
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Residential																			

Low Density Residential																			
Units	315	315	315	258	258	258	258	258	302	302	302	302	302	332	332	332	332	332	5,409
Acres	70	70	70	57	57	57	57	57	67	67	67	67	67	74	74	74	74	74	1,202
Medium Density Res.																			
Units	608	608	608	442	442	442	442	442	446	446	446	446	446	339	339	339	339	339	7,960
Acres	76	76	76	55	55	55	55	55	56	56	56	56	56	42	42	42	42	42	995
Med.-High Density Res.																			
Units	52	52	52	185	185	185	185	185	84	84	84	84	84	94	94	94	94	94	1,968
Acres	4	4	4	15	15	15	15	15	7	7	7	7	7	8	8	8	8	8	164
High Density Res.																			
Units	0	0	0	50	50	50	50	50	83	83	83	83	83	0	0	0	0	0	666
Acres	0	0	0	3	3	3	3	3	5	5	5	5	5	0	0	0	0	0	37
Commercial																			

Community Commercial (acres)	2	2	2	3	3	3	3	3	1	1	1	1	1	0	0	0	0	0	25
Town Center (acres)	2	2	2	1	1	1	1	1	2	2	2	2	2	0	0	0	0	0	17
Neighborhood Comm. (acres)	1	1	1	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	19
General Commercial (acres)	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	14
Freeway Service (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	11
Office Commercial (acres)	3	3	3	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	24
Industrial																			

Limited Industrial (acres)	6	6	6	7	7	7	7	7	8	8	8	8	8	6	6	6	6	6	127
General Industrial (acres)	5	5	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	44
Parks and Open Space																			

Neighborhood Parks (acres)	3	3	3	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	62
Community Parks (acres)	16	16	16	5	5	5	5	5	8	8	8	8	8	4	4	4	4	4	129
Regional Parks (acres)	0	0	0	14	14	14	14	14	0	0	0	0	0	0	0	0	0	0	70
Resource Conservation (acres)	13	13	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40

Source: Trimark Communities; Baseline Environmental Consulting; Economic and Planning Systems, Inc.

Table 4a
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Market Value of New Units											
Low Density Residential	\$81,051	\$85,914	\$91,069	\$79,188	\$83,939	\$88,975	\$94,314	\$99,973	\$124,015	\$131,456	\$139,344
Medium Density Res.	129,115	136,862	145,074	111,692	118,393	125,497	133,026	141,008	151,093	160,159	169,768
Med.-High Density Res.	9,874	10,467	11,095	41,794	44,302	46,960	49,778	52,764	25,423	26,948	28,565
High Density Res.	0	0	0	5,598	5,934	6,290	6,667	7,067	12,307	13,046	13,829
Community Commercial	4,697	4,978	5,277	7,160	7,590	8,045	8,528	9,039	4,491	4,761	5,047
Town Center	5,843	6,193	6,565	1,948	2,065	2,189	2,321	2,460	7,822	8,292	8,789
Neighborhood Comm.	3,041	3,224	3,417	1,521	1,613	1,709	1,812	1,921	5,817	6,166	6,536
General Commercial	3,703	3,926	4,161	5,293	5,611	5,947	6,304	6,682	0	0	0
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	7,401	7,845	8,316	6,124	6,491	6,881	7,293	7,731	7,077	7,502	7,952
Limited Industrial	4,674	4,955	5,252	6,472	6,860	7,272	7,708	8,170	9,312	9,871	10,463
General Industrial	3,476	3,684	3,905	1,428	1,514	1,605	1,701	1,803	2,244	2,378	2,521
Total	\$252,875	\$268,047	\$284,130	\$268,218	\$284,311	\$301,370	\$319,452	\$338,619	\$349,603	\$370,579	\$392,814
Assessed Value of Previously Built Units											
Low Density Residential	\$0	\$83,136	\$173,819	\$272,961	\$363,728	\$463,302	\$572,551	\$692,400	\$823,833	\$986,411	\$1,164,428
Medium Density Res.	0	\$132,436	\$276,895	\$434,831	\$564,596	\$707,045	\$863,399	\$1,034,958	\$1,223,113	\$1,431,014	\$1,658,736
Med.-High Density Res.	0	\$10,128	\$21,176	\$33,254	\$77,286	\$125,384	\$178,017	\$235,675	\$298,878	\$336,884	\$378,729
High Density Res.	0	0	0	0	5,725	11,923	18,626	25,868	33,682	47,032	61,441
Community Commercial	0	4,803	10,003	15,627	23,304	31,594	40,538	50,179	60,561	66,528	72,906
Town Center	0	5,975	12,444	19,441	21,874	24,482	27,277	30,268	33,471	42,230	51,667
Neighborhood Comm.	0	3,110	6,478	10,119	11,904	13,823	15,885	18,098	20,473	26,886	33,801
General Commercial	0	3,787	7,888	12,322	18,015	24,161	30,791	37,936	45,631	46,666	47,724
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	0	7,569	15,763	24,625	31,446	38,797	46,714	55,232	64,391	73,090	82,420
Limited Industrial	0	4,780	9,956	15,552	22,524	30,050	38,168	46,916	56,336	67,137	78,755
General Industrial	0	3,554	7,403	11,565	13,287	15,137	17,121	19,249	21,530	24,312	27,296
Total	\$0	\$259,279	\$541,825	\$850,297	\$1,153,689	\$1,485,700	\$1,849,087	\$2,246,781	\$2,681,899	\$3,148,190	\$3,657,903

Table 4a
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	2004	2005	2006	2007	2008	2009	2010
Market Value of New Units							
Low Density Residential	\$147,704	\$156,567	\$182,206	\$193,138	\$204,726	\$217,010	\$230,030
Medium Density Res.	179,954	190,752	153,640	162,859	172,630	182,988	193,968
Med.-High Density Res.	30,279	32,096	37,910	40,184	42,595	45,151	47,860
High Density Res.	14,658	15,538	0	0	0	0	0
Community Commercial	5,349	5,670	0	0	0	0	0
Town Center	9,317	9,876	0	0	0	0	0
Neighborhood Comm.	6,928	7,343	3,892	4,126	4,373	4,635	4,914
General Commercial	0	0	0	0	0	0	0
Freeway Service	0	0	9,318	9,877	10,470	11,098	11,764
Office Commercial	8,429	8,935	0	0	0	0	0
Limited Industrial	11,091	11,757	9,471	10,039	10,642	11,280	11,957
General Industrial	2,672	2,832	2,224	2,357	2,499	2,649	2,808
Total	\$416,383	\$441,366	\$398,661	\$422,580	\$447,935	\$474,811	\$503,300
Assessed Value of Previously Built Units							
Low Density Residential	\$1,359,292	\$1,572,505	\$1,805,672	\$2,077,177	\$2,373,713	\$2,697,437	\$3,050,660
Medium Density Res.	\$1,908,001	\$2,180,652	\$2,478,669	\$2,754,370	\$3,055,318	\$3,383,412	\$3,740,708
Med.-High Density Res.	\$424,692	\$475,078	\$530,217	\$594,458	\$664,563	\$740,996	\$824,258
High Density Res.	76,977	93,713	111,729	114,263	116,854	119,505	122,215
Community Commercial	79,721	86,999	94,771	96,921	99,119	101,367	103,666
Town Center	61,828	72,758	84,508	86,424	88,384	90,389	92,439
Neighborhood Comm.	41,252	49,272	57,900	63,193	68,845	74,879	81,318
General Commercial	48,806	49,913	51,045	52,203	53,387	54,598	55,836
Freeway Service	0	0	0	9,529	19,846	31,003	43,056
Office Commercial	92,421	103,138	114,615	117,214	119,873	122,591	125,372
Limited Industrial	91,242	104,654	119,051	131,437	144,685	158,850	173,989
General Industrial	30,493	33,917	37,583	40,710	44,044	47,599	51,387
Total	\$4,214,724	\$4,822,600	\$5,485,760	\$6,137,900	\$6,848,631	\$7,622,625	\$8,464,903

Table 4b
 New Assessed Valuation (\$ 000's)
 Mountain House New Town

Land Use	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Assessed Value											

Low Density Residential	\$81,051	\$169,049	\$264,887	\$352,149	\$447,667	\$552,277	\$666,865	\$792,372	\$947,849	\$1,117,867	\$1,303,772
Medium Density Res.	129,115	269,298	421,969	546,522	682,989	832,542	996,425	1,175,966	1,374,206	1,591,173	1,828,505
Med.-High Density Res.	9,874	20,595	32,270	75,048	121,588	172,344	227,795	288,439	324,301	363,833	407,295
High Density Res.	0	0	0	5,598	11,659	18,213	25,294	32,935	45,989	60,078	75,269
Community Commercial	4,697	9,782	15,281	22,787	30,894	39,639	49,066	59,218	65,053	71,289	77,953
Town Center	5,843	12,169	19,009	21,389	23,939	26,672	29,597	32,728	41,293	50,521	60,456
Neighborhood Comm.	3,041	6,334	9,895	11,640	13,517	15,533	17,697	20,019	26,290	33,052	40,337
General Commercial	3,703	7,713	12,049	17,615	23,625	30,108	37,095	44,619	45,631	46,666	47,724
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	7,401	15,413	24,079	30,748	37,937	45,678	54,007	62,963	71,469	80,592	90,372
Limited Industrial	4,674	9,735	15,208	22,024	29,384	37,322	45,876	55,087	65,648	77,008	89,218
General Industrial	3,476	7,239	11,308	12,993	14,801	16,742	18,822	21,052	23,773	26,691	29,817
Total	\$252,875	\$527,326	\$825,955	\$1,118,515	\$1,438,000	\$1,787,070	\$2,168,539	\$2,585,399	\$3,031,502	\$3,518,769	\$4,050,717

Note: This table represents the sum of the columns in Table 4a.

Table 4b
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	2004	2005	2006	2007	2008	2009	2010
Total Assessed Value							

Low Density Residential	\$1,506,997	\$1,729,071	\$1,987,878	\$2,270,315	\$2,578,439	\$2,914,446	\$3,280,690
Medium Density Res.	2,087,955	2,371,404	2,632,310	2,917,229	3,227,948	3,566,400	3,934,675
Med.-High Density Res.	454,971	507,174	568,127	634,642	707,158	786,147	872,118
High Density Res.	91,635	109,251	111,729	114,263	116,854	119,505	122,215
Community Commercial	85,070	92,670	94,771	96,921	99,119	101,367	103,666
Town Center	71,144	82,633	84,508	86,424	88,384	90,389	92,439
Neighborhood Comm.	48,179	56,615	61,792	67,319	73,218	79,514	86,231
General Commercial	48,806	49,913	51,045	52,203	53,387	54,598	55,836
Freeway Service	0	0	9,318	19,406	30,316	42,101	54,819
Office Commercial	100,851	112,073	114,615	117,214	119,873	122,591	125,372
Limited Industrial	102,333	116,411	128,522	141,476	155,327	170,130	185,946
General Industrial	33,165	36,750	39,807	43,068	46,543	50,248	54,195
Total	\$4,631,107	\$5,263,965	\$5,884,421	\$6,560,480	\$7,296,567	\$8,097,437	\$8,968,203

Note: This table represents the sum of t

Note: For Table 5, please see pages 10.19-110 and 10.19-110.

Table 6
Resident Population by Land Use
Mountain House New Town

Land Use	Fiscal Year Ending																		
	Total	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Low Density Residential	16,876	983	983	983	806	806	806	806	806	943	943	943	943	943	1,036	1,036	1,036	1,036	1,036
Medium Density Res.	21,492	1,642	1,642	1,642	1,192	1,192	1,192	1,192	1,192	1,205	1,205	1,205	1,205	1,205	916	916	916	916	916
Med.-High Density Res.	3,936	104	104	104	370	370	370	370	370	168	168	168	168	168	187	187	187	187	187
High Density Res.	1,332	0	0	0	101	101	101	101	101	166	166	166	166	166	0	0	0	0	0
Community Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Town Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Neighborhood Comm.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freeway Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limited Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Total	43,636	2,728	2,728	2,728	2,469	2,469	2,469	2,469	2,469	2,482	2,482	2,482	2,482	2,482	2,139	2,139	2,139	2,139	2,139
Cumulative Total		2,728	5,457	8,185	10,654	13,123	15,592	18,061	20,530	23,012	25,495	27,977	30,459	32,942	35,081	37,219	39,358	41,497	43,636

Table 7
Annual Revenues (\$ 000's)
Mountain House New Town

ITEM	1991-92 Approved Revenues	Percent of Total Revenues	Estimating Procedure	Per Capita Multiplier Based on Budget	Fiscal Year Ending											
					1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
General Purpose Revenues																
Property Tax	\$84,600	66.0%	See Table 5		\$1,032	\$2,050	\$3,058	\$3,944	\$4,829	\$5,715	\$6,605	\$7,500	\$8,375	\$9,258	\$10,150	\$11,052
State-shared Revenue	26,100	20.4%	Per Capita	\$53.26	145	291	436	567	699	830	962	1,094	1,226	1,358	1,490	1,622
Sales Taxes	7,200	5.6%	Per Capita (1)	\$42	115	229	344	447	551	655	759	862	967	1,071	1,175	1,279
Document Transfer Taxes	3,100	2.4%	See Table 10		242	281	323	336	379	426	477	533	581	644	712	786
Other Revenues	7,200	5.6%	Per Capita	\$14.69	40	80	120	157	193	229	265	302	338	375	411	448
Total General Purpose Rev.	128,200	100.0%			\$1,574	\$2,931	\$4,281	\$5,451	\$6,651	\$7,856	\$9,068	\$10,290	\$11,486	\$12,705	\$13,938	\$15,187
Other Funds																
Fire Protection (property taxes only)			See Table 5		\$303	\$601	\$897	\$1,157	\$1,416	\$1,676	\$1,937	\$2,200	\$2,457	\$2,716	\$2,977	\$3,242
Road Fund - Maintenance																
o Property Taxes (Road District)			See Table 5		\$142	\$282	\$421	\$543	\$665	\$787	\$910	\$1,033	\$1,154	\$1,276	\$1,398	\$1,523
o Gas Taxes	\$6,683		Per Capita	\$13.64	37	74	112	145	179	213	246	280	314	348	382	415
o Fines and Forfeitures	\$691		Per Capita	\$1.41	4	8	12	15	18	22	25	29	32	36	39	43
Total - Road Fund					\$183	\$365	\$544	\$704	\$863	\$1,022	\$1,182	\$1,342	\$1,500	\$1,659	\$1,819	\$1,981
Library (property taxes only)			See Table 5		\$80	\$159	\$238	\$307	\$376	\$445	\$514	\$583	\$651	\$720	\$789	\$860

(1) Represents per capita taxable sales of approximately \$4,000 per year, and a sales tax rate of 1.05 percent (the 0.05 percent comprises unallocated taxable sales).

Table 7
Annual Revenues (\$ 000's)
Mountain House New Town

ITEM	1991-92 Approved Revenues	Percent of Total Revenues	Estimating Procedure	Per Capita Multiplier Based on Budget	2005	2006	2007	2008	2009	2010
General Purpose Revenues										
Property Tax	\$84,600	66.0%	See Table 5		\$11,964	\$12,737	\$13,524	\$14,326	\$15,141	\$15,971
State-shared Revenue	26,100	20.4%	Per Capita	\$53.26	1,755	1,869	1,982	2,096	2,210	2,324
Sales Taxes	7,200	5.6%	Per Capita (1)	\$42	1,384	1,473	1,563	1,653	1,743	1,833
Document Transfer Taxes	3,100	2.4%	See Table 10		866	922	1,011	1,107	1,211	1,324
Other Revenues	7,200	5.6%	Per Capita	\$14.69	484	515	547	578	610	641
Total General Purpose Rev.	128,200	100.0%			\$16,452	\$17,516	\$18,628	\$19,760	\$20,915	\$22,093
Other Funds										
Fire Protection (property taxes only)			See Table 5		\$3,509	\$3,736	\$3,967	\$4,202	\$4,441	\$4,685
Road Fund - Maintenance										
o Property Taxes (Road District)			See Table 5		\$1,648	\$1,755	\$1,863	\$1,974	\$2,086	\$2,200
o Gas Taxes	\$6,683		Per Capita	\$13.64	449	478	508	537	566	595
o Fines and Forfeitures	\$691		Per Capita	\$1.41	46	49	52	55	58	61
Total - Road Fund					\$2,144	\$2,283	\$2,423	\$2,566	\$2,710	\$2,857
Library (property taxes only)			See Table 5		\$931	\$991	\$1,052	\$1,114	\$1,178	\$1,242

Table 8
Expenditures for Services (\$ 000's)
Mountain House New Town

DEPARTMENT	1991-92 Total Net County Cost (NCC)	Cost Bases for NCC				Fiscal Year Ending									
		Countywide Population	Unincorp. Population	Not Allocated	Cost Multiplier	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Countywide Programs															
General Government	\$19,304	\$15,466	\$0	\$3,838	\$31.6	\$86	\$172	\$258	\$336	\$414	\$492	\$570	\$648	\$726	\$805
Capital Maint. & Improvment	\$4,627	\$4,177	\$450	\$0	12.1	33	66	99	129	159	189	219	249	279	309
Environmental Protection (1)	\$4,642	\$495	\$106	\$4,041	1.9	5	10	15	20	24	29	33	38	43	47
Law and Justice (2)	\$74,000	\$59,966	\$4,534	\$9,500	158.5	432	865	1,297	1,688	2,080	2,471	2,862	3,254	3,647	4,040
Roads and Facilities (3)	\$491	\$93	\$0	\$398	0.2	1	1	2	2	2	3	3	4	4	5
Health Services	\$17,965	\$17,965	\$0	\$0	36.7	100	200	300	391	481	572	662	753	844	935
Human Services	\$20,843	\$20,843	\$0	\$0	42.5	116	232	348	453	558	663	768	873	979	1,084
Education	\$1,173	\$841	\$0	\$332	1.7	5	9	14	18	23	27	31	35	40	44
Parks and Recreation (4)	\$2,266	\$177	\$139	\$1,951	1.5	4	8	12	16	19	23	26	30	34	37
Urban Programs															
Law Enforcement															
o Patrol	Basis: see Footnote 5 below				\$116.4	\$318	\$635	\$953	\$1,240	\$1,528	\$1,815	\$2,102	\$2,390	\$2,679	\$2,968
o Detectives, Traffic	Basis: City of Tracy FY 1991-92 budget				11.7	32	64	96	125	154	182	211	240	269	298
Administration/Finance	Basis: City of Tracy FY 1991-92 budget				22.6	62	123	185	241	297	352	408	464	520	576
Planning/Bldg. Inspection	Basis: City of Tracy FY 1991-92 budget				2.8	8	15	23	30	37	44	51	57	64	71
Public Works/Engineering	Basis: City of Tracy FY 1991-92 budget				24.4	67	133	200	260	320	380	441	501	561	622
Animal Control	Basis: City of Tracy FY 1991-92 budget				4.5	12	25	37	48	59	70	81	92	104	115
Parks and Recreation															
o Park Maint. (per acre)	Basis: See Footnote 6 below					\$114	\$228	\$342	\$420	\$497	\$575	\$652	\$730	\$796	\$862
o Recreation & Admin.	Basis: City of Tracy FY 1991-92 budget				6.4	17	35	52	68	84	100	116	131	147	163
					=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Total General Purpose Costs						\$1,411	\$2,822	\$4,233	\$5,484	\$6,736	\$7,987	\$9,238	\$10,489	\$11,736	\$12,982
Programs Financed through Other Funds															
Fire Protection	Basis: City of Tracy FY 1991-92 budget				\$67.5	\$184	\$368	\$553	\$719	\$886	\$1,052	\$1,219	\$1,386	\$1,553	\$1,721
Road Maintenance	Basis: See Footnote 7 below					52	104	156	202	247	292	337	382	428	475
Library	Basis: County Library FY 1991-91 budget				\$12.6	34	69	103	134	165	196	228	259	290	321

Notes:

- (1) Excludes Community Development expenditures.
- (2) Excludes expenditures for Patrol and Investigation (detective) functions.
- (3) Represents expenditures not allocated to Road Fund.
- (4) Represents expenditures for litter control only.
- (5) At the request of the County, Mountain House is assumed to require 1.5 patrol officers per 1,000 population. Annual costs per deputy is \$77,600.
- (6) Maintenance costs for neighborhood/community parks average \$6,000 per acre (based on average costs for other communities in the Central Valley).
Maintenance costs for regional parks are assumed to average \$1,600 per year (based on similar expenditures in the Bay Area, and on County experience).
- (7) Road maintenance costs are assumed to average \$12,000 per street mile. Street miles are presented in Table 11.

Table 8
Expenditures for Services (\$ 000's)
Mountain House New Town

DEPARTMENT	1991-92 Total Net County Cost (NCC)	Cost Bases for NCC				Cost Multiplier	2003	2004	2005	2006	2007	2008	2009	2010
		Countywide Population	Unincorp. Population	Not Allocated										
Countywide Programs														
General Government	\$19,304	\$15,466	\$0	\$3,838	\$31.6	\$883	\$961	\$1,040	\$1,107	\$1,175	\$1,242	\$1,310	\$1,377	
Capital Maint. & Improvment	\$4,627	\$4,177	\$450	\$0	12.1	339	369	399	425	451	477	502	528	
Environmental Protection (1)	\$4,642	\$495	\$106	\$4,041	1.9	52	56	61	65	69	73	77	81	
Law and Justice (2)	\$74,000	\$59,966	\$4,534	\$9,500	158.5	4,434	4,827	5,221	5,560	5,899	6,238	6,577	6,916	
Roads and Facilities (3)	\$491	\$93	\$0	\$398	0.2	5	6	6	7	7	7	8	8	
Health Services	\$17,965	\$17,965	\$0	\$0	36.7	1,026	1,117	1,208	1,286	1,365	1,443	1,521	1,600	
Human Services	\$20,843	\$20,843	\$0	\$0	42.5	1,190	1,296	1,401	1,492	1,583	1,674	1,765	1,856	
Education	\$1,173	\$841	\$0	\$332	1.7	48	52	57	60	64	68	71	75	
Parks and Recreation (4)	\$2,266	\$177	\$139	\$1,951	1.5	41	45	48	51	55	58	61	64	
Urban Programs														
Law Enforcement														
o Patrol	Basis: see Footnote 5 below				\$116.4	\$3,257	\$3,545	\$3,834	\$4,083	\$4,332	\$4,581	\$4,830	\$5,079	
o Detectives, Traffic	Basis: City of Tracy FY 1991-92 budget				11.7	327	356	385	410	435	460	486	511	
Administration/Finance	Basis: City of Tracy FY 1991-92 budget				22.6	632	688	744	793	841	889	938	986	
Planning/Bldg. Inspection	Basis: City of Tracy FY 1991-92 budget				2.8	78	85	92	98	104	110	116	122	
Public Works/Engineering	Basis: City of Tracy FY 1991-92 budget				24.4	683	743	804	856	908	960	1,013	1,065	
Animal Control	Basis: City of Tracy FY 1991-92 budget				4.5	126	137	148	158	167	177	187	196	
Parks and Recreation														
o Park Maint. (per acre)	Basis: See Footnote 6 below					\$928	\$994	\$1,060	\$1,100	\$1,139	\$1,179	\$1,218	\$1,258	
o Recreation & Admin.	Basis: City of Tracy FY 1991-92 budget				6.4	179	195	211	225	238	252	266	279	
						=====	=====	=====	=====	=====	=====	=====	=====	
Total General Purpose Costs						\$14,228	\$15,474	\$16,720	\$17,776	\$18,833	\$19,889	\$20,945	\$22,002	
Programs Financed through Other Funds														
Fire Protection	Basis: City of Tracy FY 1991-92 budget				\$67.5	\$1,888	\$2,056	\$2,224	\$2,368	\$2,512	\$2,657	\$2,801	\$2,945	
Road Maintenance	Basis: See Footnote 7 below					521	567	613	655	697	740	782	824	
Library	Basis: County Library FY 1991-91 budget				\$12.6	353	384	415	442	469	496	523	550	

Table 9
Summary of Revenues and Expenditures (\$ 000's)
Mountain House New Town

ITEM	Fiscal Year Ending																	
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
General Purpose Programs																		
Revenues	\$1,574	\$2,931	\$4,281	\$5,451	\$6,651	\$7,856	\$9,068	\$10,290	\$11,486	\$12,705	\$13,938	\$15,187	\$16,452	\$17,516	\$18,628	\$19,760	\$20,915	\$22,093
Expenditures	1,411	2,822	4,233	5,484	6,736	7,987	9,238	10,489	11,736	12,982	14,228	15,474	16,720	17,776	18,833	19,889	20,945	22,002
Net Surplus (Deficit)	\$163	\$109	\$48	(\$34)	(\$85)	(\$131)	(\$170)	(\$200)	(\$250)	(\$277)	(\$289)	(\$287)	(\$268)	(\$260)	(\$205)	(\$129)	(\$30)	\$91
Fire Protection																		
Revenues	\$303	\$601	\$897	\$1,157	\$1,416	\$1,676	\$1,937	\$2,200	\$2,457	\$2,716	\$2,977	\$3,242	\$3,509	\$3,736	\$3,967	\$4,202	\$4,441	\$4,685
Expenditures	184	368	553	719	886	1,052	1,219	1,386	1,553	1,721	1,888	2,056	2,224	2,368	2,512	2,657	2,801	2,945
Net Surplus (Deficit)	\$119	\$233	\$344	\$438	\$531	\$624	\$718	\$814	\$903	\$995	\$1,089	\$1,186	\$1,286	\$1,368	\$1,455	\$1,545	\$1,640	\$1,739
Road Maintenance																		
Revenues	\$183	\$365	\$544	\$704	\$863	\$1,022	\$1,182	\$1,342	\$1,500	\$1,659	\$1,819	\$1,981	\$2,144	\$2,283	\$2,423	\$2,566	\$2,710	\$2,857
Expenditures	52	104	156	202	247	292	337	382	428	475	521	567	613	655	697	740	782	824
Net Surplus (Deficit)	\$131	\$260	\$388	\$502	\$616	\$730	\$845	\$960	\$1,072	\$1,185	\$1,299	\$1,414	\$1,531	\$1,627	\$1,726	\$1,826	\$1,929	\$2,033
Library																		
Revenues	\$80	\$159	\$238	\$307	\$376	\$445	\$514	\$583	\$651	\$720	\$789	\$860	\$931	\$991	\$1,052	\$1,114	\$1,178	\$1,242
Expenditures	34	69	103	134	165	196	228	259	290	321	353	384	415	442	469	496	523	550
Net Surplus (Deficit)	\$46	\$91	\$135	\$172	\$210	\$248	\$286	\$325	\$361	\$399	\$437	\$476	\$515	\$549	\$583	\$618	\$655	\$692

Note: Revenues are from Table 7, expenditures are from Table 8.

Table 10
Real Property Transfer Tax (\$000's)
Mountain House New Town

Description	Fiscal Year Ending											
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Rate per \$1,000 value	\$1.10											
Turnover rate	10.0%											
Percent of Transaction in Cash (resold homes)	95.0%											
Assessed Value from New Owner-Occupied Homes (\$ 000's)	\$220,040	\$233,243	\$247,237	\$232,674	\$246,634	\$261,432	\$277,118	\$293,745	\$300,531	\$318,563	\$337,677	\$357,938
Assessed Value from Turnover of Owner-Occupied Homes	0	23,324	48,648	76,227	103,214	132,738	165,059	200,455	239,218	280,514	325,724	375,195
Tax from Sale of New Residential Units (\$ 000's)	\$242	\$257	\$272	\$256	\$271	\$288	\$305	\$323	\$331	\$350	\$371	\$394
Tax from Turnover of Existing Residential Units (\$ 000's)	0	24	51	80	108	139	172	209	250	293	340	392
Real Property Transfer Tax (\$ 000's)	\$242	\$281	\$323	\$336	\$379	\$426	\$477	\$533	\$581	\$644	\$712	\$786

Note: Units built at low, medium and medium-high densities are assumed to be owner-occupied.

Table 10
Real Property Transfer Tax (\$000's)
Mountain House New Town

Description	2005	2006	2007	2008	2009	2010
Rate per \$1,000 value						
Turnover rate						
Percent of Transaction in Cash (resold homes)						
Assessed Value from New Owner-Occupied Homes (\$ 000's)	\$379,414	\$373,756	\$396,181	\$419,952	\$445,149	\$471,858
Assessed Value from Turnover of Owner-Occupied Homes	429,292	488,411	549,961	617,152	690,436	770,301
Tax from Sale of New Residential Units (\$ 000's)	\$417	\$411	\$436	\$462	\$490	\$519
Tax from Turnover of Existing Residential Units (\$ 000's)	449	510	575	645	722	805
Real Property Transfer Tax (\$ 000's)	\$866	\$922	\$1,011	\$1,107	\$1,211	\$1,324

10.19-54

Table 11
Road Miles
Mountain House New Town

	% Roads Per Acre	Fiscal Year Ending																	
		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Street Miles by Land Use																			

Residential	20.0%	4.1	8.3	12.4	16.0	19.6	23.2	26.8	30.4	34.1	37.8	41.5	45.2	48.9	52.3	55.7	59.1	62.5	65.9
Retail and Commercial	10.0%	0.1	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.3	1.4	1.4	1.5	1.5
Industrial	5.0%	0.1	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.1	1.2
Total Street Miles		4.3	8.7	13.0	16.8	20.6	24.3	28.1	31.8	35.7	39.6	43.4	47.3	51.1	54.6	58.1	61.6	65.1	68.6

Note: Assumes the average street has a width of 60 feet.

Table 1
General Assumptions
Mountain House New Town

General		Existing Conditions	
-----		-----	
Year Development Starts	1993	Dwelling Units (Occupied)	NA
Year of Analysis	1991	Assessed Value	NA
Appreciation Rate	6.0%	Road Miles (center line)	NA
Inflation Rate	5.0%	Countywide Population	490,008 DOF, 1991
Legislated Tax Escalation Rate	2.0%	Unincorporated Population	125,573 DOF, 1991
Property Turnover Rates (% per year)		Public Buildings	NA
o Residential	10.0%	Park/Landscaped Area Acres	NA
o Nonresidential	0.0%	Park Acres Only	NA

Table 2
Land Use Assumptions
Mountain House New Town

Land Use	Descriptive Units	Value per Acre or Unit (1)	Real Market Appreciation Rate	Turnover Rate (2)	Demographics		
					Persons per DU	Children per DU	Employees per Acre
Low Density Residential	unit	\$229,000	6.0%	10.0%	3.1	0.0	0
Medium Density Res.	unit	\$189,000	6.0%	10.0%	2.7	0.0	0
Med.-High Density Res.	unit	\$169,000	6.0%	10.0%	2.0	0.0	0
High Density Res.	unit	\$83,000	6.0%	0.0%	2.0	0.0	0
Community Commercial	acre	\$2,090,000	6.0%	0.0%	0.0	0.0	24
Town Center	acre	\$2,600,000	6.0%	0.0%	0.0	0.0	51
Neighborhood Comm.	acre	\$2,030,000	6.0%	0.0%	0.0	0.0	24
General Commercial	acre	\$2,060,000	6.0%	0.0%	0.0	0.0	24
Freeway Service	acre	\$1,800,000	6.0%	0.0%	0.0	0.0	24
Office Commercial	acre	\$2,600,000	6.0%	0.0%	0.0	0.0	44
Limited Industrial	acre	\$650,000	6.0%	0.0%	0.0	0.0	26
General Industrial	acre	\$580,000	6.0%	0.0%	0.0	0.0	14
Neighborhood Parks	acre	NA	NA	NA	NA	NA	NA
Community Parks	acre	NA	NA	NA	NA	NA	NA
Regional Parks	acre	NA	NA	NA	NA	NA	NA
Resource Conservation	acre	NA	NA	NA	NA	NA	NA

NA - not applicable

(1) Per dwelling unit for residential uses and per acre for nonresidential uses.

(2) See text for additional information regarding turnover assumptions.

Sources: Trimark Communities; Baseline Environmental Consulting; Economic and Planning Systems, Inc.

Table 3
Annual Development Schedule (Units and Acres)
Mountain House New Town

Land Use	Fiscal Year Ending																		Total
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Residential																			
Low Density Residential																			
Units	315	315	315	258	258	258	258	258	302	302	302	302	302	332	332	332	332	332	5,409
Acres	70	70	70	57	57	57	57	57	67	67	67	67	67	74	74	74	74	74	1,202
Medium Density Res.																			
Units	608	608	608	442	442	442	442	442	446	446	446	446	446	339	339	339	339	339	7,960
Acres	76	76	76	55	55	55	55	55	56	56	56	56	56	42	42	42	42	42	995
Med.-High Density Res.																			
Units	52	52	52	185	185	185	185	185	84	84	84	84	84	94	94	94	94	94	1,968
Acres	4	4	4	15	15	15	15	15	7	7	7	7	7	8	8	8	8	8	164
High Density Res.																			
Units	0	0	0	50	50	50	50	50	83	83	83	83	83	0	0	0	0	0	666
Acres	0	0	0	3	3	3	3	3	5	5	5	5	5	0	0	0	0	0	37
Commercial																			
Community Commercial (acres)	5	5	5	6	6	6	6	6	3	3	3	3	3	0	0	0	0	0	62
Town Center (acres)	5	5	5	1	1	1	1	1	4	4	4	4	4	0	0	0	0	0	43
Neighborhood Comm. (acres)	3	3	3	1	1	1	1	1	4	4	4	4	4	2	2	2	2	2	47
General Commercial (acres)	4	4	4	5	5	5	5	5	0	0	0	0	0	0	0	0	0	0	36
Freeway Service (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	5	5	5	27
Office Commercial (acres)	6	6	6	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	60
Industrial																			
Limited Industrial (acres)	16	16	16	19	19	19	19	19	20	20	20	20	20	15	15	15	15	15	317
General Industrial (acres)	13	13	13	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	110
Parks and Open Space																			
Neighborhood Parks (acres)	3	3	3	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	62
Community Parks (acres)	16	16	16	5	5	5	5	5	8	8	8	8	8	4	4	4	4	4	129
Regional Parks (acres)	0	0	0	14	14	14	14	14	0	0	0	0	0	0	0	0	0	0	70
Resource Conservation (acres)	13	13	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40

Source: Trimark Communities; Baseline Environmental Consulting; Economic and Planning Systems, Inc.

10.19-58

Table 4a
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Market Value of New Units											
Low Density Residential	\$81,051	\$85,914	\$91,069	\$79,188	\$83,939	\$88,975	\$94,314	\$99,973	\$124,015	\$131,456	\$139,344
Medium Density Res.	129,115	136,862	145,074	111,692	118,393	125,497	133,026	141,008	151,093	160,159	169,768
Med.-High Density Res.	9,874	10,467	11,095	41,794	44,302	46,960	49,778	52,764	25,423	26,948	28,565
High Density Res.	0	0	0	5,598	5,934	6,290	6,667	7,067	12,307	13,046	13,829
Community Commercial	11,742	12,446	13,193	17,900	18,974	20,113	21,319	22,598	11,229	11,902	12,616
Town Center	14,607	15,483	16,412	4,871	5,163	5,473	5,802	6,150	19,556	20,729	21,973
Neighborhood Comm.	7,603	8,059	8,543	3,803	4,031	4,273	4,530	4,801	14,542	15,414	16,339
General Commercial	9,258	9,814	10,403	13,232	14,026	14,868	15,760	16,706	0	0	0
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	18,502	19,612	20,789	15,309	16,228	17,202	18,234	19,328	17,694	18,755	19,881
Limited Industrial	11,685	12,387	13,130	16,179	17,150	18,179	19,270	20,426	23,281	24,678	26,159
General Industrial	8,689	9,211	9,763	3,570	3,785	4,012	4,252	4,508	5,609	5,945	6,302
Total	\$302,127	\$320,254	\$339,470	\$313,137	\$331,926	\$351,841	\$372,952	\$395,329	\$404,749	\$429,034	\$454,776
Assessed Value of Previously Built Units											
Low Density Residential	\$0	\$82,996	\$173,273	\$271,626	\$361,138	\$458,915	\$565,749	\$682,488	\$810,039	\$967,852	\$1,140,114
Medium Density Res.	0	\$132,214	\$276,026	\$432,703	\$560,495	\$700,154	\$852,801	\$1,019,635	\$1,201,942	\$1,402,761	\$1,622,053
Med.-High Density Res.	0	\$10,111	\$21,109	\$33,091	\$76,915	\$124,634	\$176,658	\$233,428	\$295,412	\$331,869	\$371,833
High Density Res.	0	0	0	0	5,710	11,877	18,530	25,702	33,424	46,646	60,886
Community Commercial	0	11,976	24,911	38,866	57,901	78,413	100,496	124,252	149,787	164,236	179,661
Town Center	0	14,899	30,990	48,350	54,286	60,638	67,433	74,700	82,466	104,063	127,288
Neighborhood Comm.	0	7,755	16,131	25,167	29,549	34,252	39,296	44,703	50,494	66,337	83,386
General Commercial	0	9,444	19,643	30,646	44,756	59,958	76,323	93,924	112,843	115,099	117,401
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	0	18,872	39,254	61,243	78,084	96,198	115,667	136,579	159,025	180,253	202,988
Limited Industrial	0	11,919	24,792	38,680	55,956	74,568	94,602	116,149	139,307	165,839	194,328
General Industrial	0	8,863	18,435	28,762	32,979	37,499	42,341	47,525	53,073	59,856	67,117
Total	\$0	\$309,049	\$644,564	\$1,009,135	\$1,357,771	\$1,737,107	\$2,149,898	\$2,599,085	\$3,087,811	\$3,604,812	\$4,167,056

Table 4a
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	2004	2005	2006	2007	2008	2009	2010
Market Value of New Units							
Low Density Residential	\$147,704	\$156,567	\$182,206	\$193,138	\$204,726	\$217,010	\$230,030
Medium Density Res.	179,954	190,752	153,640	162,859	172,630	182,988	193,968
Med.-High Density Res.	30,279	32,096	37,910	40,184	42,595	45,151	47,860
High Density Res.	14,658	15,538	0	0	0	0	0
Community Commercial	13,373	14,176	0	0	0	0	0
Town Center	23,292	24,689	0	0	0	0	0
Neighborhood Comm.	17,319	18,359	9,730	10,314	10,933	11,589	12,284
General Commercial	0	0	0	0	0	0	0
Freeway Service	0	0	23,295	24,692	26,174	27,744	29,409
Office Commercial	21,073	22,338	0	0	0	0	0
Limited Industrial	27,728	29,392	23,678	25,099	26,605	28,201	29,893
General Industrial	6,680	7,081	5,560	5,894	6,247	6,622	7,019
Total	\$482,062	\$510,986	\$436,018	\$462,179	\$489,910	\$519,305	\$550,463
Assessed Value of Previously Built Units							
Low Density Residential	\$1,328,117	\$1,533,251	\$1,757,002	\$2,017,601	\$2,301,584	\$2,610,946	\$2,947,830
Medium Density Res.	\$1,861,418	\$2,122,572	\$2,407,358	\$2,668,034	\$2,952,082	\$3,261,307	\$3,597,649
Med.-High Density Res.	\$415,580	\$463,403	\$515,620	\$576,557	\$642,949	\$715,233	\$793,876
High Density Res.	76,209	92,685	110,387	112,595	114,847	117,144	119,486
Community Commercial	196,123	213,687	232,420	237,068	241,810	246,646	251,579
Town Center	152,247	179,049	207,813	211,969	216,208	220,533	224,943
Neighborhood Comm.	101,719	121,419	142,574	155,350	168,977	183,508	198,998
General Commercial	119,749	122,144	124,587	127,079	129,621	132,213	134,857
Freeway Service	0	0	0	23,760	49,422	77,107	106,949
Office Commercial	227,326	253,367	281,219	286,843	292,580	298,432	304,401
Limited Industrial	224,896	257,676	292,810	322,817	354,874	389,108	425,655
General Industrial	74,888	83,200	92,086	99,599	107,603	116,127	125,204
Total	\$4,778,272	\$5,442,453	\$6,163,877	\$6,839,273	\$7,572,556	\$8,368,303	\$9,231,427

10.19.60

Table 4b
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Assessed Value											

Low Density Residential	\$81,051	\$168,910	\$264,342	\$350,813	\$445,077	\$547,890	\$660,063	\$782,460	\$934,054	\$1,099,309	\$1,279,457
Medium Density Res.	129,115	269,076	421,100	544,395	678,888	825,651	985,828	1,160,643	1,353,035	1,562,920	1,791,821
Med.-High Density Res.	9,874	20,578	32,204	74,886	121,217	171,594	226,436	286,193	320,834	358,817	400,399
High Density Res.	0	0	0	5,598	11,644	18,167	25,198	32,769	45,732	59,692	74,715
Community Commercial	11,742	24,423	38,104	56,766	76,876	98,526	121,815	146,850	161,016	176,138	192,278
Town Center	14,607	30,382	47,402	53,221	59,449	66,111	73,235	80,849	102,022	124,792	149,261
Neighborhood Comm.	7,603	15,814	24,673	28,970	33,581	38,526	43,826	49,504	65,036	81,751	99,725
General Commercial	9,258	19,258	30,046	43,879	58,783	74,826	92,083	110,630	112,843	115,099	117,401
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	18,502	38,484	60,043	76,553	94,312	113,399	133,901	155,907	176,718	199,008	222,869
Limited Industrial	11,685	24,306	37,922	54,859	73,106	92,747	113,872	136,575	162,588	190,517	220,486
General Industrial	8,689	18,073	28,198	32,332	36,764	41,511	46,593	52,033	58,682	65,801	73,420
Total	\$302,127	\$629,304	\$984,033	\$1,322,273	\$1,689,696	\$2,088,948	\$2,522,849	\$2,994,413	\$3,492,560	\$4,033,845	\$4,621,832

Note: This table represents the sum of the columns in Table 4a.

Table 4b
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	2004	2005	2006	2007	2008	2009	2010
Total Assessed Value							
Low Density Residential	\$1,475,822	\$1,689,818	\$1,939,208	\$2,210,739	\$2,506,310	\$2,827,956	\$3,177,860
Medium Density Res.	2,041,372	2,313,323	2,560,999	2,830,893	3,124,713	3,444,295	3,791,617
Med.-High Density Res.	445,859	495,499	553,530	616,741	685,545	760,384	841,736
High Density Res.	90,867	108,223	110,387	112,595	114,847	117,144	119,486
Community Commercial	209,497	227,863	232,420	237,068	241,810	246,646	251,579
Town Center	175,538	203,738	207,813	211,969	216,208	220,533	224,943
Neighborhood Comm.	119,039	139,778	152,304	165,663	179,909	195,096	211,282
General Commercial	119,749	122,144	124,587	127,079	129,621	132,213	134,857
Freeway Service	0	0	23,295	48,453	75,595	104,852	136,357
Office Commercial	248,399	275,705	281,219	286,843	292,580	298,432	304,401
Limited Industrial	252,624	287,068	316,487	347,916	381,479	417,309	455,548
General Industrial	81,568	90,281	97,646	105,493	113,850	122,749	132,224
Total	\$5,260,335	\$5,953,439	\$6,599,895	\$7,301,453	\$8,062,467	\$8,887,608	\$9,781,890

Table 5
Property Tax (\$ 000's)
Mountain House New Town

Item	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Assessed Value (Nominal Dolars)	\$302,127	\$629,304	\$984,033	\$1,322,273	\$1,689,696	\$2,088,948	\$2,522,849	\$2,994,413	\$3,492,560	\$4,033,845	\$4,621,832
Assessed Value (Constant 1991 Dollars)	274,038	543,616	809,567	1,036,035	1,260,877	1,484,576	1,707,564	1,930,226	2,144,129	2,358,506	2,573,609
Property Tax (@ 1% of Assessed Value)	\$2,740	\$5,436	\$8,096	\$10,360	\$12,609	\$14,846	\$17,076	\$19,302	\$21,441	\$23,585	\$25,736
Allocation of Tax by Fund (Constant \$'s)											
County General Fund	38.0%	\$1,041	\$2,066	\$3,076	\$3,937	\$4,791	\$5,641	\$6,489	\$7,335	\$8,148	\$8,962
Road Fund	0.0%	0	0	0	0	0	0	0	0	0	0
Library Fund	2.5%	69	136	202	259	315	371	427	483	536	590
Fire District	0.0%	0	0	0	0	0	0	0	0	0	0
Other Agencies (1)	59.5%	1,631	3,235	4,817	6,164	7,502	8,833	10,160	11,485	12,758	14,033
Total	100.0%	\$2,740	\$5,436	\$8,096	\$10,360	\$12,609	\$14,846	\$17,076	\$19,302	\$21,441	\$23,585

Note: the Mountain House site falls within three Tax Rate Areas; the tax allocation factors noted above represent approximate averages.

(1) Other agencies include the City of Tracy, Delta Community College, and local school districts.

Table 5
Property Tax (\$ 000's)
Mountain House New Town

Item		2004	2005	2006	2007	2008	2009	2010
Assessed Value (Nominal Dolars)		\$5,260,335	\$5,953,439	\$6,599,895	\$7,301,453	\$8,062,467	\$8,887,608	\$9,781,890
Assessed Value (Constant 1991 Dollars)		2,789,668	3,006,891	3,174,662	3,344,880	3,517,627	3,692,985	3,871,026
Property Tax (@ 1% of Assessed Value)		\$27,897	\$30,069	\$31,747	\$33,449	\$35,176	\$36,930	\$38,710
Allocation of Tax by Fund (Constant \$'s)								
County General Fund	38.0%	\$10,601	\$11,426	\$12,064	\$12,711	\$13,367	\$14,033	\$14,710
Road Fund	0.0%	0	0	0	0	0	0	0
Library Fund	2.5%	697	752	794	836	879	923	968
Fire District	0.0%	0	0	0	0	0	0	0
Other Agencies (1)	59.5%	16,599	17,891	18,889	19,902	20,930	21,973	23,033
Total	100.0%	\$27,897	\$30,069	\$31,747	\$33,449	\$35,176	\$36,930	\$38,710

Table 6
Resident Population by Land Use
Mountain House New Town

Land Use	Fiscal Year Ending																		
	Total	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Low Density Residential	16,876	983	983	983	806	806	806	806	806	943	943	943	943	943	1,036	1,036	1,036	1,036	1,036
Medium Density Res.	21,492	1,642	1,642	1,642	1,192	1,192	1,192	1,192	1,192	1,205	1,205	1,205	1,205	1,205	916	916	916	916	916
Med.-High Density Res.	3,936	104	104	104	370	370	370	370	370	168	168	168	168	168	187	187	187	187	187
High Density Res.	1,332	0	0	0	101	101	101	101	101	166	166	166	166	166	0	0	0	0	0
Community Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Town Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Neighborhood Comm.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freeway Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limited Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Total	43,636	2,728	2,728	2,728	2,469	2,469	2,469	2,469	2,469	2,482	2,482	2,482	2,482	2,482	2,139	2,139	2,139	2,139	2,139
Cumulative Total		2,728	5,457	8,185	10,654	13,123	15,592	18,061	20,530	23,012	25,495	27,977	30,459	32,942	35,081	37,219	39,358	41,497	43,636

Table 6
Resident Population by Land Use
Mountain House New Town

Land Use	Fiscal Year Ending																		
	Total	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Low Density Residential	16,876	983	983	983	806	806	806	806	806	943	943	943	943	943	1,036	1,036	1,036	1,036	1,036
Medium Density Res.	21,492	1,642	1,642	1,642	1,192	1,192	1,192	1,192	1,192	1,205	1,205	1,205	1,205	1,205	916	916	916	916	916
Med.-High Density Res.	3,936	104	104	104	370	370	370	370	370	168	168	168	168	168	187	187	187	187	187
High Density Res.	1,332	0	0	0	101	101	101	101	101	166	166	166	166	166	0	0	0	0	0
Community Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Town Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Neighborhood Comm.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freeway Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limited Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Total	43,636	2,728	2,728	2,728	2,469	2,469	2,469	2,469	2,469	2,482	2,482	2,482	2,482	2,482	2,139	2,139	2,139	2,139	2,139
Cumulative Total		2,728	5,457	8,185	10,654	13,123	15,592	18,061	20,530	23,012	25,495	27,977	30,459	32,942	35,081	37,219	39,358	41,497	43,636

Table 7
Annual Revenues (\$ 000's)
Mountain House New Town

ITEM	1991-92 Approved Revenues	Percent of Total Revenues	Estimating Procedure	Per Capita Multiplier Based on Budget	Fiscal Year Ending											
					1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
General Purpose Revenues																
Property Tax	\$84,600	66.0%	See Table 5		\$1,041	\$2,066	\$3,076	\$3,937	\$4,791	\$5,641	\$6,489	\$7,335	\$8,148	\$8,962	\$9,780	\$10,601
State-shared Revenue	26,100	20.4%	Per Capita	\$53.26	145	291	436	567	699	830	962	1,094	1,226	1,358	1,490	1,622
Sales Taxes	7,200	5.6%			0	0	0	0	0	0	0	0	0	0	0	0
Document Transfer Taxes	3,100	2.4%			0	0	0	0	0	0	0	0	0	0	0	0
Other Revenues	7,200	5.6%	Per Capita	\$14.69	40	80	120	157	193	229	265	302	338	375	411	448
Total General Purpose Rev.	128,200	100.0%			\$1,227	\$2,437	\$3,633	\$4,661	\$5,683	\$6,701	\$7,716	\$8,730	\$9,712	\$10,695	\$11,681	\$12,671
Other Funds																
Fire Protection (property taxes only)			Not County financed		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Road Fund - Maintenance																
o Property Taxes (Road District)			Not County financed		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
o Gas Taxes					0	0	0	0	0	0	0	0	0	0	0	0
o Fines and Forfeitures					0	0	0	0	0	0	0	0	0	0	0	0
Total - Road Fund					\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Library (property taxes only)			See Table 5		\$69	\$136	\$202	\$259	\$315	\$371	\$427	\$483	\$536	\$590	\$643	\$697

Table 7
Annual Revenues (\$ 000's)
Mountain House New Town

ITEM	1991-92 Approved Revenues	Percent of Total Revenues	Estimating Procedure	Per Capita Multiplier Based on Budget						
					2005	2006	2007	2008	2009	2010
General Purpose Revenues										
Property Tax	\$84,600	66.0%	See Table 5		\$11,426	\$12,064	\$12,711	\$13,367	\$14,033	\$14,710
State-shared Revenue	26,100	20.4%	Per Capita	\$53.26	1,755	1,869	1,982	2,096	2,210	2,324
Sales Taxes	7,200	5.6%			0	0	0	0	0	0
Document Transfer Taxes	3,100	2.4%			0	0	0	0	0	0
Other Revenues	7,200	5.6%	Per Capita	\$14.69	484	515	547	578	610	641
Total General Purpose Rev.	128,200	100.0%			\$13,665	\$14,448	\$15,240	\$16,042	\$16,853	\$17,675
Other Funds										
Fire Protection (property taxes only)			Not County financed		\$0	\$0	\$0	\$0	\$0	\$0
Road Fund - Maintenance										
o Property Taxes (Road District)			Not County financed		\$0	\$0	\$0	\$0	\$0	\$0
o Gas Taxes					0	0	0	0	0	0
o Fines and Forfeitures					0	0	0	0	0	0
Total - Road Fund					\$0	\$0	\$0	\$0	\$0	\$0
Library (property taxes only)			See Table 5		\$752	\$794	\$836	\$879	\$923	\$968

Table 8
Expenditures for Services (\$ 000's)
Mountain House New Town

DEPARTMENT	1991-92 Total Net County Cost (NCC)	Cost Bases for NCC				Fiscal Year Ending									
		Countywide Population	Unincorp. Population	Not Allocated	Cost Multiplier	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Countywide Programs															
General Government	\$19,304	\$15,466	\$0	\$3,838	\$31.6	\$86	\$172	\$258	\$336	\$414	\$492	\$570	\$648	\$726	\$805
Capital Maint. & Improvment	\$4,627	\$4,177	\$0	\$0	8.5	23	47	70	91	112	133	154	175	196	217
Environmental Protection (1)	\$4,642	\$495	\$0	\$4,147	1.0	3	6	8	11	13	16	18	21	23	26
Law and Justice (2)	\$74,000	\$59,966	\$0	\$9,500	122.4	334	668	1,002	1,304	1,606	1,908	2,210	2,512	2,816	3,120
Roads and Facilities (3)	\$491	\$93	\$0	\$398	0.2	1	1	2	2	2	3	3	4	4	5
Health Services	\$17,965	\$17,965	\$0	\$0	36.7	100	200	300	391	481	572	662	753	844	935
Human Services	\$20,843	\$20,843	\$0	\$0	42.5	116	232	348	453	558	663	768	873	979	1,084
Education	\$1,173	\$841	\$0	\$332	1.7	5	9	14	18	23	27	31	35	40	44
Parks and Recreation (4)	\$2,266	\$177	\$0	\$1,951	0.4	1	2	3	4	5	6	7	7	8	9
Urban Programs															
Law Enforcement															
o Patrol	- Provided by City rather than County.					\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
o Detectives, Traffic	- Provided by City rather than County.					0	0	0	0	0	0	0	0	0	0
Administration/Finance	- Provided by City rather than County.					0	0	0	0	0	0	0	0	0	0
Planning/Bldg. Inspection	- Provided by City rather than County.					0	0	0	0	0	0	0	0	0	0
Public Works/Engineering	- Provided by City rather than County.					0	0	0	0	0	0	0	0	0	0
Animal Control	- Provided by City rather than County.					0	0	0	0	0	0	0	0	0	0
Parks and Recreation															
o Park Maint. (per acre)	- Assumes 70-acre regional park maintained by County (5)					\$0	\$0	\$0	\$112	\$112	\$112	\$112	\$112	\$112	\$112
o Recreation & Admin.	- Provided by City rather than County.					0	0	0	0	0	0	0	0	0	0
Total General Purpose Costs						=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
						\$668	\$1,337	\$2,005	\$2,722	\$3,326	\$3,931	\$4,536	\$5,141	\$5,749	\$6,357
Programs Financed through Other Funds															
Fire Protection	- Provided by City rather than County.					\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Road Maintenance	- Provided by City rather than County.					0	0	0	0	0	0	0	0	0	0
Library	Basis: County Library FY 1991-91 budget				\$12.6	34	69	103	134	165	196	228	259	290	321

Notes:

- (1) Excludes Community Development expenditures.
- (2) Excludes expenditures for Patrol and Investigation (detective) functions.
- (3) Represents expenditures not allocated to Road Fund.
- (4) Represents expenditures for litter control only.
- (5) Maintenance costs for regional parks are assumed to average \$1,600 per year (based on similar expenditures in the Bay Area, and on County experience).

10.19-69

Table 8
Expenditures for Services (\$ 000's)
Mountain House New Town

DEPARTMENT	1991-92 Total Net County Cost (NCC)	Cost Bases for NCC				2003	2004	2005	2006	2007	2008	2009	2010	
		Countywide Population	Unincorp. Population	Not Allocated	Cost Multiplier									
Countywide Programs														
General Government	\$19,304	\$15,466	\$0	\$3,838	\$31.6	\$883	\$961	\$1,040	\$1,107	\$1,175	\$1,242	\$1,310	\$1,377	
Capital Maint. & Improvment	\$4,627	\$4,177	\$0	\$0	8.5	239	260	281	299	317	336	354	372	
Environmental Protection (1)	\$4,642	\$495	\$0	\$4,147	1.0	28	31	33	35	38	40	42	44	
Law and Justice (2)	\$74,000	\$59,966	\$0	\$9,500	122.4	3,424	3,728	4,031	4,293	4,555	4,817	5,078	5,340	
Roads and Facilities (3)	\$491	\$93	\$0	\$398	0.2	5	6	6	7	7	7	8	8	
Health Services	\$17,965	\$17,965	\$0	\$0	36.7	1,026	1,117	1,208	1,286	1,365	1,443	1,521	1,600	
Human Services	\$20,843	\$20,843	\$0	\$0	42.5	1,190	1,296	1,401	1,492	1,583	1,674	1,765	1,856	
Education	\$1,173	\$841	\$0	\$332	1.7	48	52	57	60	64	68	71	75	
Parks and Recreation (4)	\$2,266	\$177	\$0	\$1,951	0.4	10	11	12	13	13	14	15	16	
Urban Programs														
Law Enforcement														
o Patrol	- Provided by City rather than County.					\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
o Detectives, Traffic	- Provided by City rather than County.					0	0	0	0	0	0	0	0	
Administration/Finance	- Provided by City rather than County.					0	0	0	0	0	0	0	0	
Planning/Bldg. Inspection	- Provided by City rather than County.					0	0	0	0	0	0	0	0	
Public Works/Engineering	- Provided by City rather than County.					0	0	0	0	0	0	0	0	
Animal Control	- Provided by City rather than County.					0	0	0	0	0	0	0	0	
Parks and Recreation														
o Park Maint. (per acre)	- Assumes 70-acre regional park maintained by County (5)					\$112	\$112	\$112	\$112	\$112	\$112	\$112	\$112	
o Recreation & Admin.	- Provided by City rather than County.					0	0	0	0	0	0	0	0	
Total General Purpose Costs						\$6,965	\$7,573	\$8,181	\$8,705	\$9,229	\$9,752	\$10,276	\$10,800	
Programs Financed through Other Funds														
Fire Protection	- Provided by City rather than County.					\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Road Maintenance	- Provided by City rather than County.					0	0	0	0	0	0	0	0	
Library	Basis: County Library FY 1991-91 budget				\$12.6	353	384	415	442	469	496	523	550	

Table 9
Summary of Revenues and Expenditures (\$ 000's)
Mountain House New Town

ITEM	Fiscal Year Ending																	
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
General Purpose Programs																		
Revenues	\$1,227	\$2,437	\$3,633	\$4,661	\$5,683	\$6,701	\$7,716	\$8,730	\$9,712	\$10,695	\$11,681	\$12,671	\$13,665	\$14,448	\$15,240	\$16,042	\$16,853	\$17,675
Expenditures	668	1,337	2,005	2,722	3,326	3,931	4,536	5,141	5,749	6,357	6,965	7,573	8,181	8,705	9,229	9,752	10,276	10,800
Net Surplus (Deficit)	\$558	\$1,100	\$1,628	\$1,939	\$2,357	\$2,770	\$3,180	\$3,589	\$3,963	\$4,338	\$4,716	\$5,098	\$5,484	\$5,743	\$6,011	\$6,289	\$6,577	\$6,875
Fire Protection																		
Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Expenditures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Surplus (Deficit)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Road Maintenance																		
Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Expenditures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Surplus (Deficit)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Library																		
Revenues	\$69	\$136	\$202	\$259	\$315	\$371	\$427	\$483	\$536	\$590	\$643	\$697	\$752	\$794	\$836	\$879	\$923	\$968
Expenditures	34	69	103	134	165	196	228	259	290	321	353	384	415	442	469	496	523	550
Net Surplus (Deficit)	\$34	\$67	\$99	\$125	\$150	\$175	\$199	\$224	\$246	\$268	\$291	\$314	\$337	\$352	\$367	\$383	\$400	\$418

Note: Revenues are from Table 7, expenditures are from Table 8.

Table 10
Road Miles
Mountain House New Town

		Fiscal Year Ending																		
	% Roads Per Acre	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Street Miles by Land Use																				
Residential	20.0%	4.1	8.3	12.4	16.0	19.6	23.2	26.8	30.4	34.1	37.8	41.5	45.2	48.9	52.3	55.7	59.1	62.5	65.9	
Retail and Commercial	10.0%	0.3	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.4	2.7	2.9	3.1	3.3	3.4	3.5	3.6	3.7	3.8	
Industrial	5.0%	0.2	0.4	0.6	0.8	0.9	1.1	1.2	1.4	1.6	1.8	1.9	2.1	2.3	2.4	2.5	2.7	2.8	2.9	
Total Street Miles		4.7	9.3	14.0	18.0	22.0	26.0	30.0	34.0	38.1	42.2	46.3	50.4	54.4	58.1	61.7	65.4	69.0	72.7	

Note: Assumes the average street has a width of 60 feet.

Table 1
General Assumptions
Mountain House New Town

General		Existing Conditions	
-----		-----	
Year Development Starts	1993	Dwelling Units (Occupied)	NA
Year of Analysis	1991	Assessed Value	NA
Appreciation Rate	6.0%	Road Miles (center line)	NA
Inflation Rate	5.0%	Countywide Population	490,008 DOF, 1991
Legislated Tax Escalation Rate	2.0%	Unincorporated Population	125,573 DOF, 1991
Property Turnover Rates (% per year)		Public Buildings	NA
o Residential	10.0%	Park/Landscaped Area Acres	NA
o Nonresidential	0.0%	Park Acres Only	NA

Table 2
Land Use Assumptions
Mountain House New Town

Land Use	Descriptive Units	Value per Acre or Unit (1)	Real Market Appreciation Rate	Turnover Rate (2)	Demographics		
					Persons per DU	Children per DU	Employees per Acre
Low Density Residential	unit	\$229,000	6.0%	10.0%	3.1	0.0	0
Medium Density Res.	unit	\$189,000	6.0%	10.0%	2.7	0.0	0
Med.-High Density Res.	unit	\$169,000	6.0%	10.0%	2.0	0.0	0
High Density Res.	unit	\$83,000	6.0%	0.0%	2.0	0.0	0
Community Commercial	acre	\$2,090,000	6.0%	0.0%	0.0	0.0	24
Town Center	acre	\$2,600,000	6.0%	0.0%	0.0	0.0	51
Neighborhood Comm.	acre	\$2,030,000	6.0%	0.0%	0.0	0.0	24
General Commercial	acre	\$2,060,000	6.0%	0.0%	0.0	0.0	24
Freeway Service	acre	\$1,800,000	6.0%	0.0%	0.0	0.0	24
Office Commercial	acre	\$2,600,000	6.0%	0.0%	0.0	0.0	44
Limited Industrial	acre	\$650,000	6.0%	0.0%	0.0	0.0	26
General Industrial	acre	\$580,000	6.0%	0.0%	0.0	0.0	14
Neighborhood Parks	acre	NA	NA	NA	NA	NA	NA
Community Parks	acre	NA	NA	NA	NA	NA	NA
Regional Parks	acre	NA	NA	NA	NA	NA	NA
Resource Conservation	acre	NA	NA	NA	NA	NA	NA

NA - not applicable

(1) Per dwelling unit for residential uses and per acre for nonresidential uses.

(2) See text for additional information regarding turnover assumptions.

Sources: Trimark Communities; Baseline Environmental Consulting; Economic and Planning Systems, Inc.

Table 3
Annual Development Schedule (Units and Acres)
Mountain House New Town

	Fiscal Year Ending																			
Land Use	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total	
Residential																				

Low Density Residential																				
Units	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138	2,481
Acres	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	551
Medium Density Res.																				
Units	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	1,896
Acres	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	237
Med.-High Density Res.																				
Units	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	1,184
Acres	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	99
High Density Res.																				
Units	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	378
Acres	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
Commercial																				

Community Commercial (acres)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
Town Center (acres)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
Neighborhood Comm. (acres)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
General Commercial (acres)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22
Freeway Service (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office Commercial (acres)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	50
Industrial																				

Limited Industrial (acres)	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	126
General Industrial (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parks and Open Space																				

Neighborhood Parks (acres)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	35
Community Parks (acres)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	32
Regional Parks (acres)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	361
Resource Conservation (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: Trimark Communities; Baseline Environmental Consulting; Economic and Planning Systems, Inc.

10.19-75

Table 4a
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Market Value of New Units											
Low Density Residential	\$35,465	\$37,593	\$39,849	\$42,240	\$44,774	\$47,460	\$50,308	\$53,326	\$56,526	\$59,918	\$63,513
Medium Density Res.	22,369	23,711	25,133	26,641	28,240	29,934	31,730	33,634	35,652	37,791	40,059
Med.-High Density Res.	12,490	13,240	14,034	14,876	15,769	16,715	17,718	18,781	19,908	21,102	22,368
High Density Res.	1,958	2,076	2,200	2,333	2,472	2,621	2,778	2,945	3,121	3,309	3,507
Community Commercial	2,609	2,766	2,932	3,108	3,294	3,492	3,701	3,923	4,159	4,408	4,673
Town Center	2,434	2,581	2,735	2,899	3,073	3,258	3,453	3,661	3,880	4,113	4,360
Neighborhood Comm.	2,154	2,283	2,420	2,566	2,720	2,883	3,056	3,239	3,433	3,639	3,858
General Commercial	2,829	2,999	3,179	3,369	3,572	3,786	4,013	4,254	4,509	4,779	5,066
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	8,115	8,602	9,118	9,665	10,245	10,860	11,511	12,202	12,934	13,710	14,533
Limited Industrial	5,112	5,419	5,744	6,089	6,454	6,842	7,252	7,687	8,148	8,637	9,155
General Industrial	0	0	0	0	0	0	0	0	0	0	0
Total	\$95,537	\$101,269	\$107,345	\$113,786	\$120,613	\$127,850	\$135,521	\$143,652	\$152,271	\$161,407	\$171,092
Assessed Value of Previously Built Units											
Low Density Residential	\$0	\$36,316	\$75,818	\$118,854	\$165,794	\$217,031	\$272,988	\$334,114	\$400,891	\$473,835	\$553,497
Medium Density Res.	0	\$22,905	\$47,820	\$74,964	\$104,570	\$136,886	\$172,179	\$210,733	\$252,851	\$298,858	\$349,103
Med.-High Density Res.	0	\$12,790	\$26,702	\$41,859	\$58,391	\$76,436	\$96,143	\$117,671	\$141,190	\$166,880	\$194,936
High Density Res.	0	1,998	4,155	6,483	8,991	11,693	14,600	17,726	21,084	24,690	28,558
Community Commercial	0	2,661	5,536	8,637	11,979	15,579	19,452	23,617	28,091	32,894	38,049
Town Center	0	2,483	5,165	8,058	11,177	14,535	18,149	22,035	26,209	30,691	35,500
Neighborhood Comm.	0	2,197	4,570	7,131	9,890	12,862	16,060	19,498	23,192	27,158	31,413
General Commercial	0	2,886	6,002	9,364	12,988	16,891	21,090	25,605	30,456	35,664	41,253
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	0	8,277	17,217	26,861	37,257	48,452	60,497	73,449	87,363	102,303	118,333
Limited Industrial	0	5,215	10,846	16,923	23,472	30,524	38,113	46,273	55,039	64,451	74,550
General Industrial	0	0	0	0	0	0	0	0	0	0	0
Total	\$0	\$97,729	\$203,832	\$319,134	\$444,509	\$580,890	\$729,273	\$890,720	\$1,066,366	\$1,257,424	\$1,465,193

Table 4a
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	2004	2005	2006	2007	2008	2009	2010
Market Value of New Units							
Low Density Residential	\$67,323	\$71,363	\$75,645	\$80,183	\$84,994	\$90,094	\$95,500
Medium Density Res.	42,462	45,010	47,711	50,573	53,608	56,824	60,234
Med.-High Density Res.	23,711	25,133	26,641	28,240	29,934	31,730	33,634
High Density Res.	3,718	3,941	4,177	4,428	4,694	4,975	5,274
Community Commercial	4,953	5,250	5,565	5,899	6,253	6,628	7,026
Town Center	4,621	4,899	5,193	5,504	5,834	6,184	6,555
Neighborhood Comm.	4,089	4,335	4,595	4,870	5,163	5,472	5,801
General Commercial	5,370	5,692	6,034	6,396	6,780	7,187	7,618
Freeway Service	0	0	0	0	0	0	0
Office Commercial	15,404	16,329	17,308	18,347	19,448	20,615	21,852
Limited Industrial	9,705	10,287	10,904	11,559	12,252	12,987	13,766
General Industrial	0	0	0	0	0	0	0
Total	\$181,357	\$192,239	\$203,773	\$215,999	\$228,959	\$242,697	\$257,259
Assessed Value of Previously Built Units							
Low Density Residential	\$640,471	\$735,391	\$838,938	\$951,843	\$1,074,891	\$1,208,925	\$1,354,849
Medium Density Res.	\$403,959	\$463,827	\$529,136	\$600,348	\$677,957	\$762,496	\$854,533
Med.-High Density Res.	\$225,567	\$258,997	\$295,465	\$335,229	\$378,565	\$425,771	\$477,163
High Density Res.	32,707	37,153	41,916	47,015	52,472	58,308	64,549
Community Commercial	43,576	49,500	55,845	62,639	69,909	77,685	86,000
Town Center	40,657	46,184	52,104	58,443	65,226	72,481	80,239
Neighborhood Comm.	35,976	40,867	46,106	51,714	57,716	64,137	71,001
General Commercial	47,245	53,668	60,548	67,913	75,796	84,227	93,242
Freeway Service	0	0	0	0	0	0	0
Office Commercial	135,523	153,946	173,681	194,809	217,419	241,604	267,463
Limited Industrial	85,380	96,986	109,419	122,730	136,974	152,211	168,502
General Industrial	0	0	0	0	0	0	0
Total	\$1,691,062	\$1,936,518	\$2,203,156	\$2,492,682	\$2,806,925	\$3,147,844	\$3,517,540

Table 4b
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Assessed Value											

Low Density Residential	\$35,465	\$73,909	\$115,667	\$161,094	\$210,568	\$264,492	\$323,296	\$387,441	\$457,417	\$533,752	\$617,010
Medium Density Res.	22,369	46,616	72,954	101,605	132,810	166,821	203,910	244,367	288,503	336,649	389,162
Med.-High Density Res.	12,490	26,030	40,737	56,736	74,160	93,151	113,861	136,452	161,097	187,982	217,304
High Density Res.	1,958	4,074	6,356	8,815	11,464	14,314	17,378	20,671	24,206	27,998	32,066
Community Commercial	2,609	5,427	8,468	11,745	15,274	19,071	23,153	27,540	32,249	37,303	42,722
Town Center	2,434	5,064	7,900	10,958	14,250	17,793	21,603	25,695	30,089	34,804	39,860
Neighborhood Comm.	2,154	4,481	6,991	9,696	12,610	15,745	19,115	22,737	26,625	30,797	35,271
General Commercial	2,829	5,884	9,181	12,734	16,560	20,677	25,103	29,859	34,965	40,444	46,319
Freeway Service	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	8,115	16,879	26,334	36,526	47,501	59,311	72,008	85,650	100,297	116,013	132,866
Limited Industrial	5,112	10,634	16,591	23,011	29,926	37,366	45,365	53,960	63,187	73,088	83,706
General Industrial	0	0	0	0	0	0	0	0	0	0	0
Total	\$95,537	\$198,998	\$311,177	\$432,920	\$565,122	\$708,740	\$864,794	\$1,034,372	\$1,218,637	\$1,418,831	\$1,636,284

Note: This table represents the sum of the columns in Table 4a.

Table 4b
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	2004	2005	2006	2007	2008	2009	2010
Total Assessed Value							
Low Density Residential	\$707,794	\$806,753	\$914,582	\$1,032,026	\$1,159,886	\$1,299,019	\$1,450,348
Medium Density Res.	446,421	508,837	576,847	650,921	731,565	819,320	914,766
Med.-High Density Res.	249,278	284,130	322,106	363,469	408,499	457,501	510,797
High Density Res.	36,425	41,094	46,093	51,443	57,165	63,283	69,823
Community Commercial	48,529	54,750	61,410	68,538	76,162	84,313	93,026
Town Center	45,278	51,083	57,297	63,947	71,060	78,666	86,794
Neighborhood Comm.	40,066	45,201	50,700	56,585	62,879	69,609	76,802
General Commercial	52,616	59,361	66,582	74,309	82,575	91,413	100,860
Freeway Service	0	0	0	0	0	0	0
Office Commercial	150,928	170,275	190,989	213,156	236,867	262,219	289,315
Limited Industrial	95,084	107,273	120,323	134,288	149,226	165,198	182,268
General Industrial	0	0	0	0	0	0	0
Total	\$1,872,419	\$2,128,757	\$2,406,929	\$2,708,681	\$3,035,884	\$3,390,541	\$3,774,799

Table 5
Property Tax (\$ 000's)
Mountain House New Town

Item	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Assessed Value (Nominal Dolars)	\$95,537	\$198,998	\$311,177	\$432,920	\$565,122	\$708,740	\$864,794	\$1,034,372	\$1,218,637	\$1,418,831	\$1,636,284
Assessed Value (Constant 1991 Dollars)	86,655	171,902	256,006	339,204	421,702	503,688	585,327	666,765	748,137	829,561	911,144
Property Tax (@ 1% of Assessed Value)	\$867	\$1,719	\$2,560	\$3,392	\$4,217	\$5,037	\$5,853	\$6,668	\$7,481	\$8,296	\$9,111
Allocation of Tax by Fund (Constant \$'s)											
County General Fund	45.0%	\$390	\$774	\$1,152	\$1,526	\$1,898	\$2,267	\$2,634	\$3,000	\$3,367	\$4,100
Road Fund	6.2%	54	107	159	210	261	312	363	413	464	565
Library Fund	3.5%	30	60	90	119	148	176	205	233	262	319
Fire District	13.2%	114	227	338	448	557	665	773	880	988	1,203
Other Agencies (1)	32.1%	278	552	822	1,089	1,354	1,617	1,879	2,140	2,402	2,925
Total	100.0%	\$867	\$1,719	\$2,560	\$3,392	\$4,217	\$5,037	\$5,853	\$6,668	\$7,481	\$9,111

Note: the Mountain House site falls within three Tax Rate Areas; the tax allocation factors noted above represent approximate averages.

(1) Other agencies include Delta Community College, Tracy Cemetery District, County Flood Control, Mosquito Abatement District, Westside Irrigation District, County Office of Education, Lammersville Elementary School District, and the Tracy High School District.

Table 5
Property Tax (\$ 000's)
Mountain House New Town

Item		2004	2005	2006	2007	2008	2009	2010
Assessed Value (Nominal Dolars)		\$1,872,419	\$2,128,757	\$2,406,929	\$2,708,681	\$3,035,884	\$3,390,541	\$3,774,799
Assessed Value (Constant 1991 Dollars)		992,984	1,075,167	1,157,774	1,240,878	1,324,546	1,408,840	1,493,816
Property Tax (@ 1% of Assessed Value)		\$9,930	\$10,752	\$11,578	\$12,409	\$13,245	\$14,088	\$14,938
Allocation of Tax by Fund (Constant \$'s)								
County General Fund	45.0%	\$4,468	\$4,838	\$5,210	\$5,584	\$5,960	\$6,340	\$6,722
Road Fund	6.2%	616	667	718	769	821	873	926
Library Fund	3.5%	348	376	405	434	464	493	523
Fire District	13.2%	1,311	1,419	1,528	1,638	1,748	1,860	1,972
Other Agencies (1)	32.1%	3,187	3,451	3,716	3,983	4,252	4,522	4,795
Total	100.0%	\$9,930	\$10,752	\$11,578	\$12,409	\$13,245	\$14,088	\$14,938

Table 6
Resident Population by Land Use
Mountain House New Town

Land Use	Total	Fiscal Year Ending																	
		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Low Density Residential	7,741	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430
Medium Density Res.	5,119	284	284	284	284	284	284	284	284	284	284	284	284	284	284	284	284	284	284
Med.-High Density Res.	2,368	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132
High Density Res.	756	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
Community Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Town Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Neighborhood Comm.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freeway Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limited Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Total	15,984	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888
Cumulative Total		888	1,776	2,664	3,552	4,440	5,328	6,216	7,104	7,992	8,880	9,768	10,656	11,544	12,432	13,320	14,208	15,096	15,984

Table 6
Resident Population by Land Use
Mountain House New Town

Land Use	Total	Fiscal Year Ending																	
		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Low Density Residential	7,741	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430
Medium Density Res.	5,119	284	284	284	284	284	284	284	284	284	284	284	284	284	284	284	284	284	284
Med.-High Density Res.	2,368	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132
High Density Res.	756	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
Community Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Town Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Neighborhood Comm.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freeway Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limited Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Total	15,984	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888	888
Cumulative Total		888	1,776	2,664	3,552	4,440	5,328	6,216	7,104	7,992	8,880	9,768	10,656	11,544	12,432	13,320	14,208	15,096	15,984

Table 7
Annual Revenues (\$ 000's)
Mountain House New Town

ITEM	1991-92 Approved Revenues	Percent of Total Revenues	Estimating Procedure	Per Capita Multiplier Based on Budget	Fiscal Year Ending											
					1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
General Purpose Revenues																
Property Tax	\$84,600	66.0%	See Table 5		\$390	\$774	\$1,152	\$1,526	\$1,898	\$2,267	\$2,634	\$3,000	\$3,367	\$3,733	\$4,100	\$4,468
State-shared Revenue	26,100	20.4%	Per Capita	\$53.26	47	95	142	189	236	284	331	378	426	473	520	568
Sales Taxes	7,200	5.6%	Per Capita (1)	\$42	37	75	112	149	186	224	261	298	336	373	410	448
Document Transfer Taxes	3,100	2.4%	See Table 10		77	90	103	118	133	150	168	187	208	231	256	282
Other Revenues	7,200	5.6%	Per Capita	\$14.69	13	26	39	52	65	78	91	104	117	130	144	157
Total General Purpose Rev.	128,200	100.0%			\$565	\$1,059	\$1,548	\$2,035	\$2,519	\$3,002	\$3,485	\$3,969	\$4,454	\$4,941	\$5,430	\$5,923
Other Funds																
Fire Protection (property taxes only)			See Table 5		\$114	\$227	\$338	\$448	\$557	\$665	\$773	\$880	\$988	\$1,095	\$1,203	\$1,311
Road Fund - Maintenance																
o Property Taxes (Road District)			See Table 5		\$54	\$107	\$159	\$210	\$261	\$312	\$363	\$413	\$464	\$514	\$565	\$616
o Gas Taxes \$6,683			Per Capita	\$13.64	12	24	36	48	61	73	85	97	109	121	133	145
o Fines and Forfeitures \$691			Per Capita	\$1.41	1	3	4	5	6	8	9	10	11	13	14	15
Total - Road Fund					\$67	\$133	\$199	\$264	\$328	\$392	\$456	\$520	\$584	\$648	\$712	\$776
Library (property taxes only)			See Table 5		\$30	\$60	\$90	\$119	\$148	\$176	\$205	\$233	\$262	\$290	\$319	\$348

(1) Represents per capita taxable sales of approximately \$4,000 per year, and a sales tax rate of 1.05 percent (the 0.05 percent comprises unallocated taxable sales).

10.19-84

Table 7
Annual Revenues (\$ 000's)
Mountain House New Town

ITEM	1991-92 Approved Revenues	Percent of Total Revenues	Estimating Procedure	Per Capita Multiplier Based on Budget	2005	2006	2007	2008	2009	2010
General Purpose Revenues										
Property Tax	\$84,600	66.0%	See Table 5		\$4,838	\$5,210	\$5,584	\$5,960	\$6,340	\$6,722
State-shared Revenue	26,100	20.4%	Per Capita	\$53.26	615	662	709	757	804	851
Sales Taxes	7,200	5.6%	Per Capita (1)	\$42	485	522	559	597	634	671
Document Transfer Taxes	3,100	2.4%	See Table 10		311	342	376	412	451	494
Other Revenues	7,200	5.6%	Per Capita	\$14.69	170	183	196	209	222	235
Total General Purpose Rev.	128,200	100.0%			\$6,419	\$6,919	\$7,424	\$7,935	\$8,451	\$8,973
Other Funds										
Fire Protection (property taxes only)			See Table 5		\$1,419	\$1,528	\$1,638	\$1,748	\$1,860	\$1,972
Road Fund - Maintenance										
o Property Taxes (Road District)			See Table 5		\$667	\$718	\$769	\$821	\$873	\$926
o Gas Taxes	\$6,683		Per Capita	\$13.64	157	170	182	194	206	218
o Fines and Forfeitures	\$691		Per Capita	\$1.41	16	18	19	20	21	23
Total - Road Fund					\$840	\$905	\$970	\$1,035	\$1,101	\$1,167
Library (property taxes only)			See Table 5		\$376	\$405	\$434	\$464	\$493	\$523

Table 8
Expenditures for Services (\$ 000's)
Mountain House New Town

DEPARTMENT	1991-92 Total Net County Cost (NCC)	Cost Bases for NCC				Fiscal Year Ending									
		Countywide Population	Unincorp. Population	Not Allocated	Cost Multiplier	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Countywide Programs															
General Government	\$19,304	\$15,466	\$0	\$3,838	\$31.6	\$28	\$56	\$84	\$112	\$140	\$168	\$196	\$224	\$252	\$280
Capital Maint. & Improvment	\$4,627	\$4,177	\$450	\$0	12.1	11	22	32	43	54	65	75	86	97	108
Environmental Protection (1)	\$4,642	\$495	\$106	\$4,041	1.9	2	3	5	7	8	10	12	13	15	16
Law and Justice (2)	\$74,000	\$59,966	\$4,534	\$9,500	158.5	141	281	422	563	704	844	985	1,126	1,267	1,407
Roads and Facilities (3)	\$491	\$93	\$0	\$398	0.2	0	0	1	1	1	1	1	1	2	2
Health Services	\$17,965	\$17,965	\$0	\$0	36.7	33	65	98	130	163	195	228	260	293	326
Human Services	\$20,843	\$20,843	\$0	\$0	42.5	38	76	113	151	189	227	264	302	340	378
Education	\$1,173	\$841	\$0	\$332	1.7	2	3	5	6	8	9	11	12	14	15
Parks and Recreation (4)	\$2,266	\$177	\$139	\$1,951	1.5	1	3	4	5	7	8	9	10	12	13
Urban Programs															
Law Enforcement															
o Patrol	Basis: see Footnote 5 below				\$116.4	\$103	\$207	\$310	\$413	\$517	\$620	\$724	\$827	\$930	\$1,034
o Detectives, Traffic	Basis: City of Tracy FY 1991-92 budget				11.7	10	21	31	42	52	62	73	83	94	104
Administration/Finance	Basis: City of Tracy FY 1991-92 budget				22.6	20	40	60	80	100	120	140	161	181	201
Planning/Bldg. Inspection	Basis: City of Tracy FY 1991-92 budget				2.8	2	5	7	10	12	15	17	20	22	25
Public Works/Engineering	Basis: City of Tracy FY 1991-92 budget				24.4	22	43	65	87	108	130	152	173	195	217
Animal Control	Basis: City of Tracy FY 1991-92 budget				4.5	4	8	12	16	20	24	28	32	36	40
Parks and Recreation															
o Park Maint. (per acre)	Basis: See Footnote 6 below					\$54	\$109	\$163	\$218	\$272	\$327	\$381	\$435	\$490	\$544
o Recreation & Admin.	Basis: City of Tracy FY 1991-92 budget				6.4	6	11	17	23	28	34	40	45	51	57
						=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Total General Purpose Costs						\$477	\$953	\$1,430	\$1,906	\$2,383	\$2,859	\$3,336	\$3,812	\$4,289	\$4,766
Programs Financed through Other Funds															
Fire Protection	Basis: City of Tracy FY 1991-92 budget				\$67.5	\$60	\$120	\$180	\$240	\$300	\$360	\$420	\$480	\$539	\$599
Road Maintenance	Basis: See Footnote 7 below					18	37	55	73	92	110	129	147	165	184
Library	Basis: County Library FY 1991-91 budget				\$12.6	11	22	34	45	56	67	78	90	101	112

Notes:

- (1) Excludes Community Development expenditures.
- (2) Excludes expenditures for Patrol and Investigation (detective) functions.
- (3) Represents expenditures not allocated to Road Fund.
- (4) Represents expenditures for litter control only.
- (5) At the request of the County, Mountain House is assumed to require 1.5 patrol officers per 1,000 population. Annual costs per deputy is \$77,600 .
- (6) Maintenance costs for neighborhood/community parks average \$6,000 per acre (based on average costs for other communities in the Central Valley).
Maintenance costs for regional parks are assumed to average \$1,600 per year (based on similar expenditures in the Bay Area, and on County experience).
- (7) Road maintenance costs are assumed to average \$12,000 per street mile. Street miles are presented in Table 11.

Table 8
Expenditures for Services (\$ 000's)
Mountain House New Town

DEPARTMENT	1991-92 Total Net County Cost (NCC)	Cost Bases for NCC				Cost Multiplier	2003	2004	2005	2006	2007	2008	2009	2010
		Countywide Population	Unincorp. Population	Not Allocated										
Countywide Programs														
General Government	\$19,304	\$15,466	\$0	\$3,838	\$31.6	\$308	\$336	\$364	\$392	\$420	\$448	\$476	\$504	
Capital Maint. & Improvment	\$4,627	\$4,177	\$450	\$0	12.1	118	129	140	151	161	172	183	194	
Environmental Protection (1)	\$4,642	\$495	\$106	\$4,041	1.9	18	20	21	23	25	26	28	30	
Law and Justice (2)	\$74,000	\$59,966	\$4,534	\$9,500	158.5	1,548	1,689	1,830	1,970	2,111	2,252	2,392	2,533	
Roads and Facilities (3)	\$491	\$93	\$0	\$398	0.2	2	2	2	2	3	3	3	3	
Health Services	\$17,965	\$17,965	\$0	\$0	36.7	358	391	423	456	488	521	553	586	
Human Services	\$20,843	\$20,843	\$0	\$0	42.5	415	453	491	529	567	604	642	680	
Education	\$1,173	\$841	\$0	\$332	1.7	17	18	20	21	23	24	26	27	
Parks and Recreation (4)	\$2,266	\$177	\$139	\$1,951	1.5	14	16	17	18	20	21	22	23	
Urban Programs														

Law Enforcement														
o Patrol	Basis: see Footnote 5 below				\$116.4	\$1,137	\$1,240	\$1,344	\$1,447	\$1,550	\$1,654	\$1,757	\$1,861	
o Detectives, Traffic	Basis: City of Tracy FY 1991-92 budget				11.7	114	125	135	145	156	166	177	187	
Administration/Finance	Basis: City of Tracy FY 1991-92 budget				22.6	221	241	261	281	301	321	341	361	
Planning/Bldg. Inspection	Basis: City of Tracy FY 1991-92 budget				2.8	27	30	32	35	37	40	42	45	
Public Works/Engineering	Basis: City of Tracy FY 1991-92 budget				24.4	238	260	282	303	325	347	368	390	
Animal Control	Basis: City of Tracy FY 1991-92 budget				4.5	44	48	52	56	60	64	68	72	
Parks and Recreation														
o Park Maint. (per acre)	Basis: See Footnote 6 below					\$599	\$653	\$707	\$762	\$816	\$871	\$925	\$980	
o Recreation & Admin.	Basis: City of Tracy FY 1991-92 budget				6.4	63	68	74	80	85	91	97	102	
						=====	=====	=====	=====	=====	=====	=====	=====	=====
Total General Purpose Costs						\$5,242	\$5,719	\$6,195	\$6,672	\$7,148	\$7,625	\$8,101	\$8,578	
Programs Financed through Other Funds														

Fire Protection	Basis: City of Tracy FY 1991-92 budget				\$67.5	\$659	\$719	\$779	\$839	\$899	\$959	\$1,019	\$1,079	
Road Maintenance	Basis: See Footnote 7 below					202	220	239	257	275	294	312	330	
Library	Basis: County Library FY 1991-91 budget				\$12.6	123	134	145	157	168	179	190	201	

Table 9
Summary of Revenues and Expenditures (\$ 000's)
Mountain House New Town

ITEM	Fiscal Year Ending																	
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
General Purpose Programs																		
Revenues	\$565	\$1,059	\$1,548	\$2,035	\$2,519	\$3,002	\$3,485	\$3,969	\$4,454	\$4,941	\$5,430	\$5,923	\$6,419	\$6,919	\$7,424	\$7,935	\$8,451	\$8,973
Expenditures	477	953	1,430	1,906	2,383	2,859	3,336	3,812	4,289	4,766	5,242	5,719	6,195	6,672	7,148	7,625	8,101	8,578
Net Surplus (Deficit)	\$88	\$106	\$118	\$128	\$136	\$143	\$149	\$156	\$165	\$175	\$188	\$204	\$223	\$247	\$276	\$310	\$350	\$395
Fire Protection																		
Revenues	\$114	\$227	\$338	\$448	\$557	\$665	\$773	\$880	\$988	\$1,095	\$1,203	\$1,311	\$1,419	\$1,528	\$1,638	\$1,748	\$1,860	\$1,972
Expenditures	60	120	180	240	300	360	420	480	539	599	659	719	779	839	899	959	1,019	1,079
Net Surplus (Deficit)	\$54	\$107	\$158	\$208	\$257	\$305	\$353	\$401	\$448	\$496	\$543	\$591	\$640	\$689	\$739	\$789	\$841	\$893
Road Maintenance																		
Revenues	\$67	\$133	\$199	\$264	\$328	\$392	\$456	\$520	\$584	\$648	\$712	\$776	\$840	\$905	\$970	\$1,035	\$1,101	\$1,167
Expenditures	18	37	55	73	92	110	129	147	165	184	202	220	239	257	275	294	312	330
Net Surplus (Deficit)	\$49	\$97	\$144	\$190	\$236	\$282	\$328	\$373	\$419	\$464	\$510	\$556	\$602	\$648	\$694	\$741	\$788	\$836
Library																		
Revenues	\$30	\$60	\$90	\$119	\$148	\$176	\$205	\$233	\$262	\$290	\$319	\$348	\$376	\$405	\$434	\$464	\$493	\$523
Expenditures	11	22	34	45	56	67	78	90	101	112	123	134	145	157	168	179	190	201
Net Surplus (Deficit)	\$19	\$38	\$56	\$74	\$92	\$109	\$127	\$144	\$161	\$178	\$196	\$213	\$231	\$249	\$266	\$285	\$303	\$321

Note: Revenues are from Table 7, expenditures are from Table 8.

10.19-88

Table 10
Real Property Transfer Tax (\$000's)
Mountain House New Town

Description	Fiscal Year Ending											
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Rate per \$1,000 value	\$1.10											
Turnover rate	10.0%											
Percent of Transaction in Cash (resold homes)	95.0%											
Assessed Value from New Owner-Occupied Homes (\$ 000's)	\$70,324	\$74,544	\$79,016	\$83,757	\$88,783	\$94,110	\$99,756	\$105,742	\$112,086	\$118,811	\$125,940	\$133,496
Assessed Value from Turnover of Owner-Occupied Homes	0	7,454	15,535	24,312	33,860	44,259	55,593	67,953	81,436	96,144	112,189	129,688
Tax from Sale of New Residential Units (\$ 000's)	\$77	\$82	\$87	\$92	\$98	\$104	\$110	\$116	\$123	\$131	\$139	\$147
Tax from Turnover of Existing Residential Units (\$ 000's)	0	8	16	25	35	46	58	71	85	100	117	136
Real Property Transfer Tax (\$ 000's)	\$77	\$90	\$103	\$118	\$133	\$150	\$168	\$187	\$208	\$231	\$256	\$282

Note: Units built at low, medium and medium-high densities are assumed to be owner-occupied.

Table 10
Real Property Transfer Tax (\$000's)
Mountain House New Town

Description	2005	2006	2007	2008	2009	2010
Rate per \$1,000 value	\$1.10					
Turnover rate	10.0%					
Percent of Transaction in Cash (resold homes)	95.0%					
Assessed Value from New Owner-Occupied Homes (\$ 000's)	\$141,506	\$149,996	\$158,996	\$168,536	\$178,648	\$189,367
Assessed Value from Turnover of Owner-Occupied Homes	148,770	169,570	192,235	216,920	243,795	273,039
Tax from Sale of New Residential Units (\$ 000's)	\$156	\$165	\$175	\$185	\$197	\$208
Tax from Turnover of Existing Residential Units (\$ 000's)	155	177	201	227	255	285
Real Property Transfer Tax (\$ 000's)	\$311	\$342	\$376	\$412	\$451	\$494

Table 11
Road Miles
Mountain House New Town

	% Roads Per Acre	Fiscal Year Ending																		
		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Street Miles by Land Use																				

Residential	20.0%	1.4	2.8	4.2	5.5	6.9	8.3	9.7	11.1	12.5	13.9	15.3	16.6	18.0	19.4	20.8	22.2	23.6	25.0	
Retail and Commercial	10.0%	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	
Industrial	5.0%	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9	
Total Street Miles		1.5	3.1	4.6	6.1	7.7	9.2	10.7	12.2	13.8	15.3	16.8	18.4	19.9	21.4	23.0	24.5	26.0	27.5	

Note: Assumes the average street has a width of 60 feet.

Table 1
General Assumptions
Mountain House New Town

General		Existing Conditions	
-----		-----	
Year Development Starts	1993	Dwelling Units (Occupied)	NA
Year of Analysis	1991	Assessed Value	NA
Appreciation Rate	6.0%	Road Miles (center line)	NA
Inflation Rate	5.0%	Countywide Population	490,008 DOF, 1991
Legislated Tax Escalation Rate	2.0%	Unincorporated Population	125,573 DOF, 1991
Property Turnover Rates (% per year)		Public Buildings	NA
o Residential	10.0%	Park/Landscaped Area Acres	NA
o Nonresidential	0.0%	Park Acres Only	NA

Table 2
Land Use Assumptions
Mountain House New Town

Land Use	Descriptive Units	Value per Acre or Unit (1)	Real Market Appreciation Rate	Turnover Rate (2)	Demographics		
					Persons per DU	Children per DU	Employees per Acre
Low Density Residential	unit	\$229,000	6.0%	10.0%	3.1	0.0	0
Medium Density Res.	unit	\$189,000	6.0%	10.0%	2.7	0.0	0
Med.-High Density Res.	unit	\$169,000	6.0%	10.0%	2.0	0.0	0
High Density Res.	unit	\$83,000	6.0%	0.0%	2.0	0.0	0
Community Commercial	acre	\$2,090,000	6.0%	0.0%	0.0	0.0	24
Town Center	acre	\$2,600,000	6.0%	0.0%	0.0	0.0	51
Neighborhood Comm.	acre	\$2,030,000	6.0%	0.0%	0.0	0.0	24
General Commercial	acre	\$2,060,000	6.0%	0.0%	0.0	0.0	24
Freeway Service	acre	\$1,800,000	6.0%	0.0%	0.0	0.0	24
Office Commercial	acre	\$2,600,000	6.0%	0.0%	0.0	0.0	44
Limited Industrial	acre	\$650,000	6.0%	0.0%	0.0	0.0	26
General Industrial	acre	\$580,000	6.0%	0.0%	0.0	0.0	14
Neighborhood Parks	acre	NA	NA	NA	NA	NA	NA
Community Parks	acre	NA	NA	NA	NA	NA	NA
Regional Parks	acre	NA	NA	NA	NA	NA	NA
Resource Conservation	acre	NA	NA	NA	NA	NA	NA

NA - not applicable

(1) Per dwelling unit for residential uses and per acre for nonresidential uses.

(2) See text for additional information regarding turnover assumptions.

Sources: Trimark Communities; Baseline Environmental Consulting; Economic and Planning Systems, Inc.

Table 3
Annual Development Schedule (Units and Acres)
Mountain House New Town

Land Use	Fiscal Year Ending																			Total
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010		
Residential																				

Low Density Residential																				
Units	295	295	295	295	295	295	295	295	295	295	295	295	295	295	295	295	295	295	5,310	
Acres	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	1,180	
Medium Density Res.																				
Units	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185	3,336	
Acres	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	417	
Med.-High Density Res.																				
Units	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	214	3,852	
Acres	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	321	
High Density Res.																				
Units	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138	2,484	
Acres	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	138	
Commercial																				

Community Commercial (acres)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	63	
Town Center (acres)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	64	
Neighborhood Comm. (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
General Commercial (acres)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	33	
Freeway Service (acres)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
Office Commercial (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Industrial																				

Limited Industrial (acres)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	182	
General Industrial (acres)	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	202	
Parks and Open Space																				

Neighborhood Parks (acres)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	63	
Community Parks (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Regional Parks (acres)	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	976	
Resource Conservation (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Source: Trimark Communities; Baseline Environmental Consulting; Economic and Planning Systems, Inc.

10.19-94

Table 4a
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Market Value of New Units											
Low Density Residential	\$75,905	\$80,459	\$85,287	\$90,404	\$95,828	\$101,578	\$107,672	\$114,133	\$120,981	\$128,240	\$135,934
Medium Density Res.	39,357	41,719	44,222	46,875	49,688	52,669	55,829	59,179	62,730	66,494	70,483
Med.-High Density Res.	40,636	43,074	45,659	48,398	51,302	54,380	57,643	61,102	64,768	68,654	72,773
High Density Res.	12,870	13,642	14,460	15,328	16,248	17,223	18,256	19,351	20,512	21,743	23,048
Community Commercial	8,219	8,712	9,235	9,789	10,376	10,999	11,659	12,359	13,100	13,886	14,719
Town Center	10,387	11,010	11,671	12,371	13,113	13,900	14,734	15,618	16,555	17,549	18,602
Neighborhood Comm.	0	0	0	0	0	0	0	0	0	0	0
General Commercial	4,243	4,498	4,768	5,054	5,357	5,679	6,019	6,381	6,763	7,169	7,599
Freeway Service	1,236	1,310	1,389	1,472	1,560	1,654	1,753	1,858	1,970	2,088	2,213
Office Commercial	0	0	0	0	0	0	0	0	0	0	0
Limited Industrial	7,385	7,828	8,297	8,795	9,323	9,882	10,475	11,104	11,770	12,476	13,225
General Industrial	7,313	7,752	8,217	8,710	9,233	9,787	10,374	10,997	11,656	12,356	13,097
Total	\$207,552	\$220,005	\$233,205	\$247,197	\$262,029	\$277,751	\$294,416	\$312,081	\$330,806	\$350,654	\$371,693
Assessed Value of Previously Built Units											
Low Density Residential	\$0	\$77,727	\$162,272	\$254,380	\$354,843	\$464,504	\$584,267	\$715,093	\$858,014	\$1,014,133	\$1,184,632
Medium Density Res.	0	\$40,302	\$84,140	\$131,899	\$183,990	\$240,851	\$302,949	\$370,784	\$444,890	\$525,839	\$614,244
Med.-High Density Res.	0	\$41,611	\$86,873	\$136,184	\$189,967	\$248,675	\$312,791	\$382,830	\$459,343	\$542,922	\$634,200
High Density Res.	0	13,127	27,304	42,600	59,087	76,841	95,945	116,485	138,553	162,247	187,670
Community Commercial	0	8,384	17,438	27,206	37,735	49,074	61,274	74,392	88,486	103,617	119,854
Town Center	0	10,595	22,037	34,382	47,688	62,018	77,437	94,014	111,825	130,948	151,467
Neighborhood Comm.	0	0	0	0	0	0	0	0	0	0	0
General Commercial	0	4,328	9,003	14,046	19,482	25,336	31,635	38,408	45,684	53,497	61,879
Freeway Service	0	1,261	2,622	4,091	5,674	7,380	9,214	11,187	13,306	15,582	18,023
Office Commercial	0	0	0	0	0	0	0	0	0	0	0
Limited Industrial	0	7,532	15,667	24,444	33,904	44,091	55,053	66,838	79,501	93,096	107,683
General Industrial	0	7,460	15,516	24,208	33,577	43,666	54,522	66,194	78,735	92,199	106,646
Total	\$0	\$212,326	\$442,872	\$693,440	\$965,947	\$1,262,436	\$1,585,087	\$1,936,225	\$2,318,336	\$2,734,079	\$3,186,288

Table 4a
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	2004	2005	2006	2007	2008	2009	2010
Market Value of New Units							
Low Density Residential	\$144,090	\$152,735	\$161,899	\$171,613	\$181,910	\$192,825	\$204,394
Medium Density Res.	74,712	79,195	83,947	88,983	94,322	99,982	105,981
Med.-High Density Res.	77,139	81,768	86,674	91,874	97,387	103,230	109,424
High Density Res.	24,431	25,896	27,450	29,097	30,843	32,694	34,655
Community Commercial	15,602	16,539	17,531	18,583	19,698	20,879	22,132
Town Center	19,718	20,901	22,155	23,484	24,893	26,387	27,970
Neighborhood Comm.	0	0	0	0	0	0	0
General Commercial	8,055	8,539	9,051	9,594	10,170	10,780	11,427
Freeway Service	2,346	2,487	2,636	2,794	2,962	3,140	3,328
Office Commercial	0	0	0	0	0	0	0
Limited Industrial	14,018	14,859	15,751	16,696	17,698	18,759	19,885
General Industrial	13,883	14,716	15,599	16,535	17,527	18,579	19,693
Total	\$393,995	\$417,635	\$442,693	\$469,254	\$497,410	\$527,254	\$558,889
Assessed Value of Previously Built Units							
Low Density Residential	\$1,370,778	\$1,573,931	\$1,795,549	\$2,037,197	\$2,300,553	\$2,587,421	\$2,899,737
Medium Density Res.	\$710,763	\$816,101	\$931,012	\$1,056,309	\$1,192,862	\$1,341,606	\$1,503,545
Med.-High Density Res.	\$733,855	\$842,614	\$961,259	\$1,090,626	\$1,231,616	\$1,385,193	\$1,552,392
High Density Res.	214,932	244,149	275,447	308,955	344,813	383,169	424,180
Community Commercial	137,264	155,924	175,912	197,311	220,212	244,708	270,899
Town Center	173,470	197,051	222,311	249,355	278,296	309,253	342,353
Neighborhood Comm.	0	0	0	0	0	0	0
General Commercial	70,868	80,502	90,822	101,870	113,693	126,340	139,863
Freeway Service	20,641	23,447	26,453	29,671	33,115	36,798	40,737
Office Commercial	0	0	0	0	0	0	0
Limited Industrial	123,326	140,091	158,049	177,276	197,851	219,860	243,391
General Industrial	122,138	138,741	156,526	175,568	195,945	217,741	241,046
Total	\$3,678,035	\$4,212,552	\$4,793,340	\$5,424,138	\$6,108,956	\$6,852,089	\$7,658,142

10.19-96

Table 4b
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Assessed Value											

Low Density Residential	\$75,905	\$158,186	\$247,558	\$344,784	\$450,671	\$566,082	\$691,939	\$829,226	\$978,995	\$1,142,372	\$1,320,566
Medium Density Res.	39,357	82,021	128,362	178,774	233,678	293,520	358,778	429,963	507,619	592,332	684,728
Med.-High Density Res.	40,636	84,686	132,532	184,582	241,269	303,056	370,434	443,931	524,111	611,576	706,973
High Density Res.	12,870	26,769	41,765	57,928	75,334	94,064	114,201	135,836	159,065	183,990	210,717
Community Commercial	8,219	17,096	26,673	36,995	48,112	60,073	72,933	86,751	101,586	117,503	134,573
Town Center	10,387	21,605	33,708	46,753	60,802	75,918	92,171	109,632	128,381	148,497	170,068
Neighborhood Comm.	0	0	0	0	0	0	0	0	0	0	0
General Commercial	4,243	8,826	13,771	19,100	24,840	31,015	37,655	44,789	52,448	60,666	69,479
Freeway Service	1,236	2,571	4,011	5,563	7,235	9,034	10,967	13,045	15,276	17,670	20,237
Office Commercial	0	0	0	0	0	0	0	0	0	0	0
Limited Industrial	7,385	15,360	23,964	33,239	43,226	53,973	65,528	77,942	91,271	105,572	120,908
General Industrial	7,313	15,212	23,733	32,918	42,810	53,453	64,896	77,191	90,391	104,555	119,743
Total	\$207,552	\$432,331	\$676,077	\$940,637	\$1,227,976	\$1,540,187	\$1,879,503	\$2,248,306	\$2,649,142	\$3,084,733	\$3,557,991

Note: This table represents the sum of the columns in Table 4a.

10.19-97

Table 4b
New Assessed Valuation (\$ 000's)
Mountain House New Town

Land Use	2004	2005	2006	2007	2008	2009	2010
Total Assessed Value							

Low Density Residential	\$1,514,868	\$1,726,667	\$1,957,449	\$2,208,810	\$2,482,464	\$2,780,246	\$3,104,131
Medium Density Res.	785,476	895,295	1,014,959	1,145,292	1,287,184	1,441,588	1,609,526
Med.-High Density Res.	810,994	924,382	1,047,933	1,182,501	1,329,003	1,488,423	1,661,816
High Density Res.	239,362	270,046	302,897	338,052	375,656	415,863	458,835
Community Commercial	152,867	172,462	193,442	215,894	239,910	265,587	293,031
Town Center	193,188	217,952	244,466	272,839	303,189	335,640	370,323
Neighborhood Comm.	0	0	0	0	0	0	0
General Commercial	78,924	89,041	99,873	111,464	123,863	137,120	151,289
Freeway Service	22,987	25,934	29,089	32,465	36,077	39,938	44,065
Office Commercial	0	0	0	0	0	0	0
Limited Industrial	137,344	154,950	173,800	193,972	215,549	238,619	263,276
General Industrial	136,021	153,457	172,125	192,103	213,472	236,320	260,739
Total	\$4,072,030	\$4,630,187	\$5,236,032	\$5,893,392	\$6,606,366	\$7,379,343	\$8,217,032

10.19-98

Table 5
Property Tax (\$ 000's)
Mountain House New Town

Item	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Assessed Value (Nominal Dolars)	\$207,552	\$432,331	\$676,077	\$940,637	\$1,227,976	\$1,540,187	\$1,879,503	\$2,248,306	\$2,649,142	\$3,084,733	\$3,557,991
Assessed Value (Constant 1991 Dollars)	188,255	373,464	556,210	737,014	916,335	1,094,582	1,272,121	1,449,278	1,626,343	1,803,580	1,981,222
Property Tax (@ 1% of Assessed Value)	\$1,883	\$3,735	\$5,562	\$7,370	\$9,163	\$10,946	\$12,721	\$14,493	\$16,263	\$18,036	\$19,812
Allocation of Tax by Fund (Constant \$'s)											
County General Fund	45.0%	\$847	\$1,681	\$2,503	\$3,317	\$4,124	\$4,926	\$5,725	\$6,522	\$7,319	\$8,116
Road Fund	6.2%	117	232	345	457	568	679	789	899	1,008	1,118
Library Fund	3.5%	66	131	195	258	321	383	445	507	569	631
Fire District	13.2%	248	493	734	973	1,210	1,445	1,679	1,913	2,147	2,381
Other Agencies (1)	32.1%	604	1,199	1,785	2,366	2,941	3,514	4,084	4,652	5,221	5,789
Total	100.0%	\$1,883	\$3,735	\$5,562	\$7,370	\$9,163	\$10,946	\$12,721	\$14,493	\$16,263	\$18,036

Note: the Mountain House site falls within three Tax Rate Areas; the tax allocation factors noted above represent approximate averages.

(1) Other agencies include Delta Community College, Tracy Cemetery District, County Flood Control, Mosquito Abatement District, Westside Irrigation District, County Office of Education, Lammersville Elementary School District, and the Tracy High School District.

Table 5
Property Tax (\$ 000's)
Mountain House New Town

Item		2004	2005	2006	2007	2008	2009	2010
Assessed Value (Nominal Dolars)		\$4,072,030	\$4,630,187	\$5,236,032	\$5,893,392	\$6,606,366	\$7,379,343	\$8,217,032
Assessed Value (Constant 1991 Dollars)		2,159,485	2,338,559	2,518,621	2,699,831	2,882,335	3,066,270	3,251,758
Property Tax (@ 1% of Assessed Value)		\$21,595	\$23,386	\$25,186	\$26,998	\$28,823	\$30,663	\$32,518
Allocation of Tax by Fund (Constant \$'s)								
County General Fund	45.0%	\$9,718	\$10,524	\$11,334	\$12,149	\$12,971	\$13,798	\$14,633
Road Fund	6.2%	1,339	1,450	1,562	1,674	1,787	1,901	2,016
Library Fund	3.5%	756	818	882	945	1,009	1,073	1,138
Fire District	13.2%	2,851	3,087	3,325	3,564	3,805	4,047	4,292
Other Agencies (1)	32.1%	6,932	7,507	8,085	8,666	9,252	9,843	10,438
Total	100.0%	\$21,595	\$23,386	\$25,186	\$26,998	\$28,823	\$30,663	\$32,518

Table 6
Resident Population by Land Use
Mountain House New Town

Land Use	Fiscal Year Ending																		
	Total	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Low Density Residential	16,567	920	920	920	920	920	920	920	920	920	920	920	920	920	920	920	920	920	920
Medium Density Res.	9,007	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
Med.-High Density Res.	7,704	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428
High Density Res.	4,968	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276
Community Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Town Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Neighborhood Comm.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Freeway Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office Commercial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limited Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Total	38,246	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125
Cumulative Total		2,125	4,250	6,374	8,499	10,624	12,749	14,874	16,998	19,123	21,248	23,373	25,498	27,622	29,747	31,872	33,997	36,122	38,246

Table 7
Annual Revenues (\$ 000's)
Mountain House New Town

ITEM	1991-92 Approved Revenues	Percent of Total Revenues	Estimating Procedure	Per Capita Multiplier Based on Budget	Fiscal Year Ending											
					1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
General Purpose Revenues																
Property Tax	\$84,600	66.0%	See Table 5		\$847	\$1,681	\$2,503	\$3,317	\$4,124	\$4,926	\$5,725	\$6,522	\$7,319	\$8,116	\$8,916	\$9,718
State-shared Revenue	26,100	20.4%	Per Capita	\$53.26	113	226	340	453	566	679	792	905	1,019	1,132	1,245	1,358
Sales Taxes	7,200	5.6%	Per Capita (1)	\$42	89	178	268	357	446	535	625	714	803	892	982	1,071
Document Transfer Taxes	3,100	2.4%	See Table 10		171	199	229	261	295	332	372	415	462	512	567	626
Other Revenues	7,200	5.6%	Per Capita	\$14.69	31	62	94	125	156	187	219	250	281	312	343	375
Total General Purpose Rev.	128,200	100.0%			\$1,252	\$2,347	\$3,433	\$4,512	\$5,587	\$6,659	\$7,732	\$8,806	\$9,883	\$10,965	\$12,053	\$13,147
Other Funds																
Fire Protection (property taxes only)			See Table 5		\$248	\$493	\$734	\$973	\$1,210	\$1,445	\$1,679	\$1,913	\$2,147	\$2,381	\$2,615	\$2,851
Road Fund - Maintenance																
o Property Taxes (Road District)			See Table 5		\$117	\$232	\$345	\$457	\$568	\$679	\$789	\$899	\$1,008	\$1,118	\$1,228	\$1,339
o Gas Taxes			Per Capita	\$13.64	29	58	87	116	145	174	203	232	261	290	319	348
o Fines and Forfeitures			Per Capita	\$1.41	3	6	9	12	15	18	21	24	27	30	33	36
Total - Road Fund					\$149	\$295	\$441	\$585	\$728	\$870	\$1,013	\$1,154	\$1,296	\$1,438	\$1,580	\$1,723
Library (property taxes only)			See Table 5		\$66	\$131	\$195	\$258	\$321	\$383	\$445	\$507	\$569	\$631	\$693	\$756

(1) Represents per capita taxable sales of approximately \$4,000 per year, and a sales tax rate of 1.05 percent (the 0.05 percent comprises unallocated taxable sales).

Table 7
Annual Revenues (\$ 000's)
Mountain House New Town

ITEM	1991-92 Approved Revenues	Percent of Total Revenues	Estimating Procedure	Per Capita Multiplier Based on Budget	2005	2006	2007	2008	2009	2010
General Purpose Revenues										
Property Tax	\$84,600	66.0%	See Table 5		\$10,524	\$11,334	\$12,149	\$12,971	\$13,798	\$14,633
State-shared Revenue	26,100	20.4%	Per Capita	\$53.26	1,471	1,584	1,698	1,811	1,924	2,037
Sales Taxes	7,200	5.6%	Per Capita (1)	\$42	1,160	1,249	1,339	1,428	1,517	1,606
Document Transfer Taxes	3,100	2.4%	See Table 10		690	759	833	914	1,000	1,094
Other Revenues	7,200	5.6%	Per Capita	\$14.69	406	437	468	500	531	562
Total General Purpose Rev.	128,200	100.0%			\$14,251	\$15,363	\$16,487	\$17,622	\$18,770	\$19,933
Other Funds										
Fire Protection (property taxes only)			See Table 5		\$3,087	\$3,325	\$3,564	\$3,805	\$4,047	\$4,292
Road Fund - Maintenance										
o Property Taxes (Road District)			See Table 5		\$1,450	\$1,562	\$1,674	\$1,787	\$1,901	\$2,016
o Gas Taxes	\$6,683		Per Capita	\$13.64	377	406	435	464	493	522
o Fines and Forfeitures	\$691		Per Capita	\$1.41	39	42	45	48	51	54
Total - Road Fund					\$1,866	\$2,009	\$2,153	\$2,299	\$2,445	\$2,592
Library (property taxes only)			See Table 5		\$818	\$882	\$945	\$1,009	\$1,073	\$1,138

Table 8
Expenditures for Services (\$ 000's)
Mountain House New Town

DEPARTMENT	1991-92 Total Net County Cost (NCC)	Cost Bases for NCC				Fiscal Year Ending										
		Countywide Population	Unincorp. Population	Not Allocated	Cost Multiplier	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
Countywide Programs																
General Government	\$19,304	\$15,466	\$0	\$3,838	\$31.6	\$67	\$134	\$201	\$268	\$335	\$402	\$469	\$537	\$604	\$671	
Capital Maint. & Improvment	\$4,627	\$4,177	\$450	\$0	12.1	26	51	77	103	129	154	180	206	232	257	
Environmental Protection (1)	\$4,642	\$495	\$106	\$4,041	1.9	4	8	12	16	20	24	28	32	35	39	
Law and Justice (2)	\$74,000	\$59,966	\$4,534	\$9,500	158.5	337	673	1,010	1,347	1,684	2,020	2,357	2,694	3,031	3,367	
Roads and Facilities (3)	\$491	\$93	\$0	\$398	0.2	0	1	1	2	2	2	3	3	4	4	
Health Services	\$17,965	\$17,965	\$0	\$0	36.7	78	156	234	312	389	467	545	623	701	779	
Human Services	\$20,843	\$20,843	\$0	\$0	42.5	90	181	271	362	452	542	633	723	813	904	
Education	\$1,173	\$841	\$0	\$332	1.7	4	7	11	15	18	22	26	29	33	36	
Parks and Recreation (4)	\$2,266	\$177	\$139	\$1,951	1.5	3	6	9	12	16	19	22	25	28	31	
Urban Programs																
Law Enforcement																
o Patrol	Basis: see Footnote 5 below				\$116.4	\$247	\$495	\$742	\$989	\$1,237	\$1,484	\$1,731	\$1,979	\$2,226	\$2,473	
o Detectives, Traffic	Basis: City of Tracy FY 1991-92 budget				11.7	25	50	75	99	124	149	174	199	224	249	
Administration/Finance	Basis: City of Tracy FY 1991-92 budget				22.6	48	96	144	192	240	288	336	384	432	480	
Planning/Bldg. Inspection	Basis: City of Tracy FY 1991-92 budget				2.8	6	12	18	24	30	36	42	48	54	59	
Public Works/Engineering	Basis: City of Tracy FY 1991-92 budget				24.4	52	104	156	207	259	311	363	415	467	518	
Animal Control	Basis: City of Tracy FY 1991-92 budget				4.5	10	19	29	38	48	57	67	76	86	96	
Parks and Recreation																
o Park Maint. (per acre)	Basis: See Footnote 6 below					\$108	\$216	\$323	\$431	\$539	\$647	\$754	\$862	\$970	\$1,078	
o Recreation & Admin.	Basis: City of Tracy FY 1991-92 budget				6.4	14	27	41	54	68	82	95	109	122	136	
						=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	
Total General Purpose Costs						\$1,118	\$2,236	\$3,354	\$4,471	\$5,589	\$6,707	\$7,825	\$8,943	\$10,061	\$11,178	
Programs Financed through Other Funds																
Fire Protection	Basis: City of Tracy FY 1991-92 budget				\$67.5	\$143	\$287	\$430	\$574	\$717	\$861	\$1,004	\$1,147	\$1,291	\$1,434	
Road Maintenance	Basis: See Footnote 7 below					41	82	123	164	205	246	287	328	369	410	
Library	Basis: County Library FY 1991-91 budget				\$12.6	27	54	80	107	134	161	187	214	241	268	

Notes:

- (1) Excludes Community Development expenditures.
- (2) Excludes expenditures for Patrol and Investigation (detective) functions.
- (3) Represents expenditures not allocated to Road Fund.
- (4) Represents expenditures for litter control only.
- (5) At the request of the County, Mountain House is assumed to require 1.5 patrol officers per 1,000 population. Annual costs per deputy is \$77,600 .
- (6) Maintenance costs for neighborhood/community parks average \$6,000 per acre (based on average costs for other communities in the Central Valley).
Maintenance costs for regional parks are assumed to average \$1,600 per year (based on similar expenditures in the Bay Area, and on County experience).
- (7) Road maintenance costs are assumed to average \$12,000 per street mile. Street miles are presented in Table 11.

Table 8
Expenditures for Services (\$ 000's)
Mountain House New Town

DEPARTMENT	1991-92 Total Net County Cost (NCC)	Cost Bases for NCC				Cost Multiplier	2003	2004	2005	2006	2007	2008	2009	2010
		Countywide Population	Unincorp. Population	Not Allocated										
Countywide Programs														
General Government	\$19,304	\$15,466	\$0	\$3,838	\$31.6	\$738	\$805	\$872	\$939	\$1,006	\$1,073	\$1,140	\$1,207	
Capital Maint. & Improvment	\$4,627	\$4,177	\$450	\$0	12.1	283	309	334	360	386	412	437	463	
Environmental Protection (1)	\$4,642	\$495	\$106	\$4,041	1.9	43	47	51	55	59	63	67	71	
Law and Justice (2)	\$74,000	\$59,966	\$4,534	\$9,500	158.5	3,704	4,041	4,378	4,714	5,051	5,388	5,725	6,061	
Roads and Facilities (3)	\$491	\$93	\$0	\$398	0.2	4	5	5	6	6	6	7	7	
Health Services	\$17,965	\$17,965	\$0	\$0	36.7	857	935	1,013	1,091	1,168	1,246	1,324	1,402	
Human Services	\$20,843	\$20,843	\$0	\$0	42.5	994	1,085	1,175	1,265	1,356	1,446	1,536	1,627	
Education	\$1,173	\$841	\$0	\$332	1.7	40	44	47	51	55	58	62	66	
Parks and Recreation (4)	\$2,266	\$177	\$139	\$1,951	1.5	34	37	40	44	47	50	53	56	
Urban Programs														
Law Enforcement														
o Patrol	Basis: see Footnote 5 below				\$116.4	\$2,721	\$2,968	\$3,215	\$3,463	\$3,710	\$3,957	\$4,205	\$4,452	
o Detectives, Traffic	Basis: City of Tracy FY 1991-92 budget				11.7	273	298	323	348	373	398	423	447	
Administration/Finance	Basis: City of Tracy FY 1991-92 budget				22.6	528	576	624	672	720	768	816	864	
Planning/Bldg. Inspection	Basis: City of Tracy FY 1991-92 budget				2.8	65	71	77	83	89	95	101	107	
Public Works/Engineering	Basis: City of Tracy FY 1991-92 budget				24.4	570	622	674	726	778	830	881	933	
Animal Control	Basis: City of Tracy FY 1991-92 budget				4.5	105	115	124	134	143	153	163	172	
Parks and Recreation														
o Park Maint. (per acre)	Basis: See Footnote 6 below					\$1,185	\$1,293	\$1,401	\$1,509	\$1,616	\$1,724	\$1,832	\$1,940	
o Recreation & Admin.	Basis: City of Tracy FY 1991-92 budget				6.4	150	163	177	190	204	218	231	245	
						=====	=====	=====	=====	=====	=====	=====	=====	=====
Total General Purpose Costs						\$12,296	\$13,414	\$14,532	\$15,650	\$16,768	\$17,885	\$19,003	\$20,121	
Programs Financed through Other Funds														
Fire Protection	Basis: City of Tracy FY 1991-92 budget				\$67.5	\$1,578	\$1,721	\$1,865	\$2,008	\$2,151	\$2,295	\$2,438	\$2,582	
Road Maintenance	Basis: See Footnote 7 below					451	492	533	574	615	656	697	738	
Library	Basis: County Library FY 1991-91 budget				\$12.6	294	321	348	375	402	428	455	482	

Table 9
Summary of Revenues and Expenditures (\$ 000's)
Mountain House New Town

ITEM	Fiscal Year Ending																	
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
General Purpose Programs																		
Revenues	\$1,252	\$2,347	\$3,433	\$4,512	\$5,587	\$6,659	\$7,732	\$8,806	\$9,883	\$10,965	\$12,053	\$13,147	\$14,251	\$15,363	\$16,487	\$17,622	\$18,770	\$19,933
Expenditures	1,118	2,236	3,354	4,471	5,589	6,707	7,825	8,943	10,061	11,178	12,296	13,414	14,532	15,650	16,768	17,885	19,003	20,121
Net Surplus (Deficit)	\$134	\$111	\$79	\$40	(\$3)	(\$48)	(\$93)	(\$137)	(\$177)	(\$213)	(\$244)	(\$267)	(\$281)	(\$286)	(\$281)	(\$263)	(\$233)	(\$188)
Fire Protection																		
Revenues	\$248	\$493	\$734	\$973	\$1,210	\$1,445	\$1,679	\$1,913	\$2,147	\$2,381	\$2,615	\$2,851	\$3,087	\$3,325	\$3,564	\$3,805	\$4,047	\$4,292
Expenditures	143	287	430	574	717	861	1,004	1,147	1,291	1,434	1,578	1,721	1,865	2,008	2,151	2,295	2,438	2,582
Net Surplus (Deficit)	\$105	\$206	\$304	\$399	\$492	\$584	\$675	\$766	\$856	\$946	\$1,038	\$1,129	\$1,222	\$1,317	\$1,412	\$1,510	\$1,609	\$1,711
Road Maintenance																		
Revenues	\$149	\$295	\$441	\$585	\$728	\$870	\$1,013	\$1,154	\$1,296	\$1,438	\$1,580	\$1,723	\$1,866	\$2,009	\$2,153	\$2,299	\$2,445	\$2,592
Expenditures	41	82	123	164	205	246	287	328	369	410	451	492	533	574	615	656	697	738
Net Surplus (Deficit)	\$108	\$213	\$318	\$421	\$523	\$624	\$725	\$826	\$927	\$1,028	\$1,129	\$1,230	\$1,332	\$1,435	\$1,538	\$1,642	\$1,747	\$1,853
Library																		
Revenues	\$66	\$131	\$195	\$258	\$321	\$383	\$445	\$507	\$569	\$631	\$693	\$756	\$818	\$882	\$945	\$1,009	\$1,073	\$1,138
Expenditures	27	54	80	107	134	161	187	214	241	268	294	321	348	375	402	428	455	482
Net Surplus (Deficit)	\$39	\$77	\$114	\$151	\$187	\$222	\$258	\$293	\$328	\$364	\$399	\$435	\$470	\$507	\$543	\$580	\$618	\$656

Note: Revenues are from Table 7, expenditures are from Table 8.

Table 10
Real Property Transfer Tax (\$000's)
Mountain House New Town

Description	Fiscal Year Ending											
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Rate per \$1,000 value	\$1.10											
Turnover rate	10.0%											
Percent of Transaction in Cash (resold homes)	95.0%											
Assessed Value from New Owner-Occupied Homes (\$ 000's)	\$155,898	\$165,252	\$175,167	\$185,677	\$196,818	\$208,627	\$221,145	\$234,414	\$248,478	\$263,387	\$279,190	\$295,942
Assessed Value from Turnover of Owner-Occupied Homes	0	16,525	34,439	53,896	75,063	98,115	123,242	150,642	180,531	213,137	248,706	287,500
Tax from Sale of New Residential Units (\$ 000's)	\$171	\$182	\$193	\$204	\$216	\$229	\$243	\$258	\$273	\$290	\$307	\$326
Tax from Turnover of Existing Residential Units (\$ 000's)	0	17	36	56	78	103	129	157	189	223	260	300
Real Property Transfer Tax (\$ 000's)	\$171	\$199	\$229	\$261	\$295	\$332	\$372	\$415	\$462	\$512	\$567	\$626

Note: Units built at low, medium and medium-high densities are assumed to be owner-occupied.

Table 10
Real Property Transfer Tax (\$000's)
Mountain House New Town

Description	2005	2006	2007	2008	2009	2010
Rate per \$1,000 value	\$1.10					
Turnover rate	10.0%					
Percent of Transaction in Cash (resold homes)	95.0%					
Assessed Value from New Owner-Occupied Homes (\$ 000's)	\$313,698	\$332,520	\$352,471	\$373,620	\$396,037	\$419,799
Assessed Value from Turnover of Owner-Occupied Homes	329,802	375,913	426,156	480,880	540,457	605,287
Tax from Sale of New Residential Units (\$ 000's)	\$345	\$366	\$388	\$411	\$436	\$462
Tax from Turnover of Existing Residential Units (\$ 000's)	345	393	445	503	565	633
Real Property Transfer Tax (\$ 000's)	\$690	\$759	\$833	\$914	\$1,000	\$1,094

Table 11
Road Miles
Mountain House New Town

	% Roads Per Acre	Fiscal Year Ending																	
		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Street Miles by Land Use																			

Residential	20.0%	3.1	6.3	9.4	12.6	15.7	18.8	22.0	25.1	28.3	31.4	34.6	37.7	40.8	44.0	47.1	50.3	53.4	56.5
Retail and Commercial	10.0%	0.1	0.3	0.4	0.5	0.7	0.8	0.9	1.0	1.2	1.3	1.4	1.6	1.7	1.8	2.0	2.1	2.2	2.4
Industrial	5.0%	0.1	0.3	0.4	0.6	0.7	0.9	1.0	1.2	1.3	1.5	1.6	1.8	1.9	2.1	2.2	2.3	2.5	2.6
Total Street Miles		3.4	6.8	10.3	13.7	17.1	20.5	23.9	27.3	30.8	34.2	37.6	41.0	44.4	47.9	51.3	54.7	58.1	61.5

Note: Assumes the average street has a width of 60 feet.

Table 5
Property Tax (\$ 000's)
Mountain House New Town

Item	Fiscal Year Ending										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Assessed Value (Nominal Dollars)	\$252,875	\$527,326	\$825,955	\$1,118,515	\$1,438,000	\$1,787,070	\$2,168,539	\$2,585,399	\$3,031,502	\$3,518,769	\$4,050,717
Assessed Value (Constant 1991 Dollars)	229,365	455,524	679,515	876,386	1,073,058	1,270,037	1,467,753	1,666,572	1,861,079	2,057,351	2,255,591
Property Tax (@ 1% of Assessed Value)	\$2,294	\$4,555	\$6,795	\$8,764	\$10,731	\$12,700	\$14,678	\$16,666	\$18,611	\$20,574	\$22,556
Allocation of Tax by Fund (Constant \$'s)											
County General Fund	45.0%	\$1,032	\$2,050	\$3,058	\$3,944	\$4,829	\$5,715	\$6,605	\$7,500	\$8,375	\$9,258
Road Fund	6.2%	142	282	421	543	665	787	910	1,033	1,154	1,276
Library Fund	3.5%	80	159	238	307	376	445	514	583	651	720
Fire District	13.2%	303	601	897	1,157	1,416	1,676	1,937	2,200	2,457	2,716
Other Agencies (1)	32.1%	736	1,462	2,181	2,813	3,445	4,077	4,711	5,350	5,974	6,604
Total	100.0%	\$2,294	\$4,555	\$6,795	\$8,764	\$10,731	\$12,700	\$14,678	\$16,666	\$18,611	\$20,574

Note: the Mountain House site falls within three Tax Rate Areas; the tax allocation factors noted above represent approximate averages.

(1) Other agencies include Delta Community College, Tracy Cemetery District, County Flood Control, Mosquito Abatement District, Westside Irrigation District, County Office of Education, Lammersville Elementary School District, and the Tracy High School District.

Table 5
Property Tax (\$ 000's)
Mountain House New Town

Item		2004	2005	2006	2007	2008	2009	2010
Assessed Value (Nominal Dolars)		\$4,631,107	\$5,263,965	\$5,884,421	\$6,560,480	\$7,296,567	\$8,097,437	\$8,968,203
Assessed Value (Constant 1991 Dollars)		2,455,975	2,658,660	2,830,507	3,005,432	3,183,468	3,364,652	3,549,023
Property Tax (@ 1% of Assessed Value)		\$24,560	\$26,587	\$28,305	\$30,054	\$31,835	\$33,647	\$35,490
Allocation of Tax by Fund (Constant \$'s)								
County General Fund	45.0%	\$11,052	\$11,964	\$12,737	\$13,524	\$14,326	\$15,141	\$15,971
Road Fund	6.2%	1,523	1,648	1,755	1,863	1,974	2,086	2,200
Library Fund	3.5%	860	931	991	1,052	1,114	1,178	1,242
Fire District	13.2%	3,242	3,509	3,736	3,967	4,202	4,441	4,685
Other Agencies (1)	32.1%	7,884	8,534	9,086	9,647	10,219	10,801	11,392
Total	100.0%	\$24,560	\$26,587	\$28,305	\$30,054	\$31,835	\$33,647	\$35,490

APPENDIX 10.20

FINANCIAL DATA

School Impact Fees
Mountain House New Town
(in 000's of 1991 dollars)

Allocation Factor	Residential					Retail and Office					Industrial		
	Totals	Low Density	Medium Density	Med.-High Density	High Density	Community Commercial	Town Center	Neighborhood Commercial	General Commercial	Freeway Service	Office Commercial	Limited Industrial	General Industrial
Developable Acres	3,100	1,202	995	164	37	62	43	47	36	27	60	317	110
% Distribution	100%	38.8%	32.1%	5.3%	1.2%	2.0%	1.4%	1.5%	1.2%	0.9%	1.9%	10.2%	3.5%
Dwelling Units	16,003	5,409	7,960	1,968	666								
Units per Acre		4.5	8	12	18								
% Distribution	100%	33.8%	49.7%	12.3%	4.2%								
Square Feet per Residence (1)		2,400	1,800	1,400	900								
Nonresidential Acre (2)						10,890	15,246	10,890	10,890	8,712	13,068	13,068	10,890
Total SF per Use (000's)		12,982	14,328	2,755	599	675,180	655,578	511,830	392,040	235,224	784,080	4,142,556	1,197,900
Impact Fees per SF													
Primary		\$1.18	\$1.18	\$1.18	\$1.18	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20
Secondary		\$0.40	\$0.40	\$0.40	\$0.40	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06	\$0.06
Total Fees (000's)													
Primary	\$37,264	\$15,318	\$16,907	\$3,251	\$707	\$135	\$135	\$135	\$135	\$135	\$135	\$135	\$135
Secondary	\$21,286	\$5,193	\$5,193	\$5,193	\$5,193	\$41	\$39	\$31	\$24	\$14	\$47	\$249	\$72
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Total	\$58,550	\$20,511	\$22,100	\$8,444	\$5,900	\$176	\$174	\$166	\$159	\$149	\$182	\$384	\$207

(1) Dwelling unit sizes are from Worksheet G, presented in "Fiscal & Financing Data Package," prepared by Trimark Communities, June 1991.

(2) Based on implied floor-area-ratios from Worksheet G, presented in "Fiscal & Financing Data Package," prepared by Trimark Communities, June 1991.

Source: Trimark Communities; Tracy Public School District; Economic and Planning Systems, Inc.

U.C. BERKELEY LIBRARIES



C124913579

